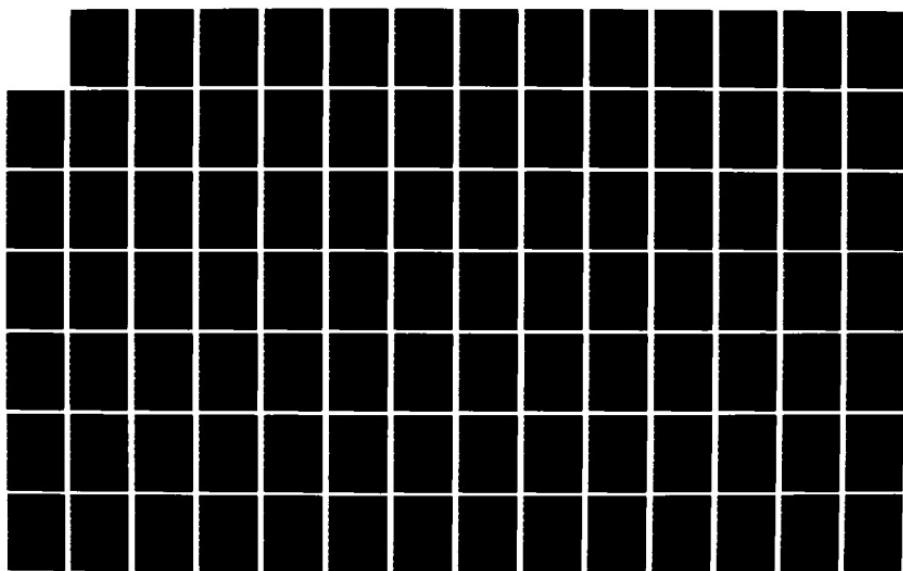


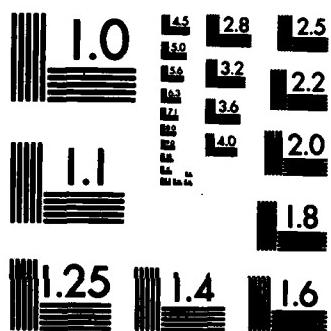
AD-A134 323 HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E 1/6
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REPORT NO. NADC-81118-60



HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E VOLUME 4

BOEING VERTOL CO.
Boeing Center, P.O. Box 16858
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) CH-46E; Helicopter; Flying Qualities		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This document defines the flying qualities characteristics of the CH-46E helicopter. The data are representative of both the metal-bladed and composite-bladed versions. Analytically computed static trim data are presented for a wide range of configurations (gross weight, c.g.) and flight conditions (airspeed, altitude, sideslip, climb, autorotation). Correlation of trim data with available flight test data is provided for validation. (see next page)		

20. ABSTRACT (continued)

Analytically computed static stability and control derivatives are compiled for significant combinations of configuration and flight condition. Time history data relating to dynamic stability, control response and SAS failures are extracted from flight test records obtained during the Contractor's CH-46E SLEP II flight test program.



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VOLUME 4

CH-46E TRIM AND STABILITY DERIVATIVES DATA

This Volume contains the trim and stability derivative output data obtained from the Boeing Vertol Tandem Rotor Trim and Stability Analysis Program (A-97), for the CH-46E helicopter. The flight conditions considered are grouped under 15 headings on page 11. The first page in each group catalogs all the trim and derivative cases in that group. Those flight conditions at which stability and control derivatives were obtained are designated by an X in the appropriate column of the catalog.

The trim output parameters are defined in the legend beginning on page 3. These parameters are listed in the order of their appearance on the output sheet.

Each derivative output is broken down into three pages. The first page presents the three force (X, Y, Z) and the three moment (L , M, N) derivatives of the whole helicopter with respect to three velocity perturbations (u, v, w), three angular rate perturbations (p, q, r), four control input perturbations (δ_B , δ_S , δ_R , δ_C), and two aerodynamic incidence perturbations (β , α). The format of the output presents first the derivatives of X-force with respect to these twelve perturbations. Hence XU is the derivative of X-force with respect to u (dX/du), XV is the derivative of X-force with respect to v (dX/dv), and so forth through $X\text{ALPHA} = (dX/d\alpha)$. The X-force derivatives are followed by the twelve Z-force derivatives, twelve M-moment derivatives, twelve Y-force derivatives, twelve L -moment derivatives and twelve N-moment derivatives. In all cases, the force derivatives are non-dimensionalized by the helicopter mass, and the moment derivatives by the appropriate moments of inertia, which are listed at the top of the first page of derivative output. The definitions, sign conventions and units of the forces, moments and perturbations are set forth on page 8.

The second page of derivative output consists of component derivatives arranged in an array of longitudinal rotor force, rotor flapping, induced velocity and fuselage force derivatives with respect to six longitudinal perturbations, and an array of lateral-directional rotor force, flapping and fuselage force derivatives with respect to five lateral-directional perturbations. The value at the intersection of each line and column of the array is the derivative of the parameter at the extreme left with respect to the perturbation at the head of the column. For example, the derivative of CTR with respect to ALPHA ($dC_{TR}/d\alpha$) is the second entry in the column under ALPHA. The parameters involved in these derivatives are defined under "Component Derivative Parameters" beginning on page 9.

The third page of derivative output consists of four small arrays of supplementary derivatives. The first array presents derivatives of the six helicopter forces and moments with respect to perturbations in rotor longitudinal cyclic pitch and rotor RPM, and the second array presents rotor component derivatives with respect to longitudinal cyclic and RPM. These arrays are read in the same manner as the second page of derivative output. The third and fourth arrays present the derivatives of forward and aft rotor torque with respect to perturbations in aircraft velocity, angular rate, control input and aerodynamic incidence angle. These arrays are read in the same manner as the first page of derivative output. The parameters involved in these derivatives are defined under "Supplementary Derivative Parameters" beginning on page 10.

A97 TRIM ANALYSIS OUTPUT DEFINITION

(In order of appearance)

V	True airspeed along flight path	knots
FE	Equivalent drag area of fuselage	ft ²
RC	Rate of climb	ft./min.
ALPHA	Fuselage angle of attack w.r.t. remote airstream	deg.
GW	Helicopter gross weight	lb.
ALFF	Fuselage angle of attack w.r.t. local airstream	deg.
RHO	Atmospheric density	sl./ft ³
THETA	Fuselage pitch attitude (Euler angle)	deg.
XFLW	Forward rotor propulsive force parallel to local airstream	lb.
LFLW	Forward rotor lift force force perpendicular to local airstream	lb.
VTF(R)	Forward (aft) rotor tip speed	ft./sec.
CGF	C.G. location ahead of reference station (approx.)	in.
CGL	Lateral c.g. offset from butt line 0	in.
BETAF	Fuselage sideslip angle	deg.
PHI	Fuselage roll altitude (Euler angle)	deg.
PSI	Fuselage yaw attitude (Euler angle)	deg.
GAMMA	Flight path climb angle	deg.
XR LW	Aft rotor propulsive force parallel to local airstream	lb.
LR LW	Aft rotor lift force perpendicular to local airstream	lb.
THEOF(R)	Forward (aft) rotor root collective pitch at CL of rotor	deg.

A1CF(R)	Forward (aft) rotor lateral cyclic pitch (positive tilts TPP toward advancing side)	deg.
B1TF(R)	Forward (aft) rotor longitudinal trim cyclic pitch (positive tilts TPP forward)	deg.
B1CF(R)	Forward (aft) rotor total longitudinal cyclic pitch (positive tilts TPP forward)	deg.
DFW	Fuselage drag parallel to local airstream	lb.
LFFW	Fuselage lift perpendicular to local airstream	lb.
THETAC	Mean rotor root collective pitch	deg.
DELTAB	Longitudinal stick position (all trim systems neutral)	in.
DELtas	Lateral stick position (all trim system neutral)	in.
DELTAR	Directional pedal position (all trim systems neutral)	in.
DELTAC	Collective stick position	in.
TF(R)	Forward (aft) rotor thrust parallel to shaft axis	lb.
HF(R)	Forward (aft) rotor downstream force perpendicular to shaft axis	lb.
YF(R)	Forward (aft) rotor side force perpendicular to shaft axis toward advancing side	lb.
MHF(R)	Forward (aft) rotor nose-up hub moment	lb.-ft.
LHF(R)	Forward (aft) rotor roll hub moment toward advancing side	lb.-ft.
QF(R)	Forward rotor torque required	lb.-ft.
LFZ	Fuselage lift in fuselage axis system	lb.
DFX	Fuselage drag in fuselage axis system	lb.
YFY	Fuselage side force to right side	lb.

MF	Fuselage nose-up pitch moment	lb.-ft.
LF	Fuselage right roll moment	lb.-ft.
NF	Fuselage right yaw moment	lb.-ft.
RHPF(R)	Forward (aft) rotor power required	HP
XR	Total rotor propulsive force along flight path	lb.
L/DE	Equivalent lift/drag ratio of helicopter	-
SHPTOT	Total power required by helicopter	HP
WFF	Dummy parameter	-
NMLB	Dummy parameter	-
SIGOF(R)	Forward (aft) rotor solidity ratio	-
CTSF(R)	Forward (aft) rotor thrust coefficient	-
CPSF(R)	Forward (aft) rotor power coefficient	-
AMTF(R)	Forward (aft) rotor advancing tip Mach No.	-
LAMDAF(R)	Forward (aft) rotor inflow ratio	-
MUF(R)	Forward (aft) rotor advance ratio	-
VF(R)	Forward (aft) rotor induced velocity	ft./sec.
DFFR	Interference factor for forward rotor on aft rotor	-
DFRF	Interference factor for aft rotor on forward rotor	-
DFF	Interference factor for both rotors on fuselage	-
AOF(R)	Forward (aft) rotor coning angle	deg.
A1F(R)	Forward (aft) rotor longitudinal flapping angle (positive for aft TPP tilt)	deg.
B1F(R)	Forward (aft) rotor lateral flapping angle (positive for TPP tilt to advancing side)	deg.

BETAOF(R)	Forward (aft) rotor blade flap angle at downwind azimuth ($\psi = 0^\circ$)	deg.
B180F(R)	Forward (aft) rotor blade flap angle at upwind azimuth ($\psi = 180^\circ$)	deg.
A270F(R)	Forward (aft) rotor blade tip angle of attack on retreating side ($\psi = 270^\circ$)	deg.
CAPVF(R)	Forward (aft) rotor velocity in local airstream	ft./sec.
ALPHAF(R)	Forward (aft) rotor disc angle of attack w.r.t. local airstream	deg.
BETAF(R)W	Forward (aft) rotor disc sideslip angle w.r.t. local airstream	deg.
ATIPF(R)	Forward (aft) rotor TPP angle of attack w.r.t. remote airstream	deg.
BPTPF(R)	Forward (aft) rotor total flapping amplitude (lateral and longitudinal)	deg.
XFF, LFF ZFF, YFF MFF, NFF	Force and moment components of external force applied to the helicopter (e.g. auxiliary propulsion, tow cable force, etc.)	lb. & lb.-ft.
TP	Magnitude of external force on helicopter	lb.
RMTF(R)	Forward (aft) rotor retreating blade tip Mach No.	-
CTF(R)P	Thrust coefficient format for LF(R) LW	-
A90F(R)	Forward (aft) rotor blade tip angle of attack on advancing side ($\psi = 90^\circ$)	deg.
DELHPF(R)	Additional power computed for forward (aft) rotor by nonuniform downwash power correction	HP
RHPF(R)	Forward (aft) rotor power required, revised by nonuniform downwash power correction	HP
SHPTOT	Total power required by helicopter, revised by nonuniform downwash power correction	HP

WFF	Dummy parameter	-
NMLB	Dummy parameter	-
RP	Dummy parameter	-

A97 STABILITY DERIVATIVE OUTPUT DEFINITION

Helicopter Derivative Parameters

(In order of appearance)

X	Non-dimensionalized force component along helicopter longitudinal axis, positive forward	ft./sec ²
Z	Non-dimensionalized force component along helicopter vertical axis, positive down	ft./sec ²
M	Non-dimensionalized pitch moment about helicopter lateral axis, positive nose up	rad/sec ²
Y	Non-dimensionalized force component along helicopter lateral axis, positive right	ft./sec ²
L	Non-dimensionalized roll moment about helicopter longitudinal axis, positive roll right	rad/sec ²
N	Non-dimensionalized yaw moment about helicopter vertical axis, positive nose right	rad/sec ²
U	Velocity perturbation along helicopter longitudinal axis, positive forward	ft./sec.
V	Velocity perturbation along helicopter lateral axis, positive right	ft./sec.
W	Velocity perturbation along helicopter vertical axis, positive down	ft./sec.
P	Angular rate perturbation about helicopter longitudinal axis, positive roll right	rad/sec.
Q	Angular rate perturbation about helicopter lateral axis, positive nose up	rad/sec.
R	Angular rate perturbation about helicopter vertical axis, positive nose right	rad/sec.
DELB	Pitch control perturbation about helicopter lateral axis, positive nose up	in.

DELS	Roll control perturbation about helicopter longitudinal axis, positive roll right	in.
DELR	Yaw control perturbation about helicopter vertical axis, positive nose right	in.
DELTAC	Collective control perturbation along helicopter vertical axis, positive up	in.
ALPHA	Aerodynamic angle of attack perturbation, ($\tan^{-1} W/U$)	rad
BETA	Aerodynamic sideslip angle perturbation, ($\tan^{-1} V/U$)	rad

Component Derivative Parameters

(In alphabetical order)

ALPHA	Aerodynamic angle of attack perturbation	rad
ALC	Rotor lateral cyclic pitch perturbation (positive tilts TPP toward advancing side)	rad
ALF(R)	Forward (aft) rotor longitudinal flapping angle (positive for aft TPP tilt)	rad
BETA	Aerodynamic sideslip angle perturbation	rad
BLF(R)	Forward (aft) rotor lateral flapping angle (positive for TPP tilt to advancing side)	rad
CHF(R)	Forward (aft) rotor downstream force coefficient, perpendicular to shaft axis	-
CTF(R)	Forward (aft) rotor thrust coefficient, parallel to shaft axis	-
CYF(R)	Forward (aft) rotor sideforce coefficient, perpendicular to shaft toward advancing side	-
DF	Fuselage drag in fuselage axis system	lb.
LF	Fuselage lift in fuselage axis system	lb.
LF	Fuselage right roll moment	lb.-ft.

MF	Fuselage nose up pitch moment	lb.-ft.
MU	Rotor advance ratio perturbation	-
NF	Fuselage nose right yaw moment	lb.-ft.
P	Angular rate perturbation about helicopter longitudinal axis, positive roll right	rad/sec.
Q	Angular rate perturbation about helicopter lateral axis, positive nose up	rad/sec.
R	Angular rate perturbation about helicopter vertical axis, positive nose right	rad/sec.
THETAC	Rotor collective pitch perturbation	rad
U	Velocity perturbation along helicopter longitudinal axis, positive forward	ft./sec.
V	Velocity perturbation along helicopter lateral axis, positive to right	ft./sec.
VF(R)R	Forward (aft) rotor induced velocity	ft./sec.
W	Velocity perturbation along helicopter vertical axis, positive down	ft./sec.
YF	Fuselage side force to right side	lb.

Supplementary Derivative Parameters

(In alphabetical order)

B1CF(R)	Forward (aft) rotor longitudinal cyclic pitch perturbation (positive tilts TPP forward)	rad
OMEGAF(R)	Forward (aft) rotor RPM perturbation (not computed for synchronized rotors)	rad/sec.
QF(R)	Non-dimensionalized forward (aft) rotor torque required	rad/sec ²

All other parameters are as defined above for "Helicopter Derivative Parameters" and "Component Derivative Parameters".

FLIGHT CONDITIONS FOR
CH-46E TRIM AND STABILITY DERIVATIVE ANALYSIS

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>PAGE</u>
0 ft	-40 to 138 kt	0 ft/min	0 deg	12
8000	0 to 93	0	0	51
0	60 to 120	AUTO & MPC	0	77
0	50 to 130	0	$\pm \beta$ max	100
0	-45 to 45	0	± 90	161

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	
0 ft	-40 to 146 kt	0 ft/min	0 deg	180
14000	0 to 112	0	0	221
0	60 to 120	AUTO & MPC	0	248
0	50 to 140	0	$\pm \beta$ max	271
0	-45 to 45	0	± 90	331

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	
0 ft	-40 to 146 kt	0 ft/min	0 deg	350
14000	0 to 112	0	0	392
0	60 to 120	AUTO & FPC	0	419
0	50 to 140	0	$\pm \beta$ max	442
0	-45 to 45	0	0	503

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-40 kt	0 ft/min	0 deg	X
	-20			X
	0			X
	20			X
	40			X
	60			X
	80			X
	100			X
	120			X
	138			X

V FE -4.000000D+01 4.400000D+01	RC ALPHA 0.0 1.884710D+02	GW ALFFF 2.430000D+04 2.043478D+02	RHO THETA 2.378000D-03 8.545682D+00	XF LW LF LW 5.602107D+03 1.134364D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -2.457389D-01	PSI GAMMA 0.0 0.0	XR LW LR LW 1.831870D+02 1.228255D+04
THEOF THEOR 1.816669D+01 1.467809D+01	AICF AICR -1.354427D+00 -1.842888D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.252502D+02 6.169507D+02
THETAC 1.642239D+01	DELTAB 2.729731D+00	DELTA _S 1.637347D-01	DELTAR -6.782699D-01	DELTAC 7.304178D+00
TF TR 1.265148D+04 1.228320D+04	HF HR 4.303382D+01 1.321724D+02	YF YR -3.788600D+02 -4.531899D+02	MHF MHR 1.468875D+02 4.210089D+02	LHF LHR -1.298806D+03 -1.581765D+03
QF QR 2.846001D+04 1.412784D+04	LFZ DFX -6.581322D+02 -2.308200D+02	YFY MF 3.211347D+01 4.663443D+03	LF NF 1.512407D+02 -3.493003D+02	RHFP RHPR 1.430610D+03 7.101696D+02
XR 2.632629D+02	1/DE -1.313095D+00	SHPTOT 2.240780D+03	WFF 2.241780D+03	NMLB 1.784297D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CISR 8.964360D-02 8.686634D-02	CPSF CPSR 7.912592D-03 3.927892D-03	AMTF AMTR 6.914683D-01 6.906918D-01	LAMDAF LAMDAR -7.217898D-02 -3.078123D-02
MUF MUR 9.581093D-02 9.579480D-02	VF VR 1.722603D+01 1.996547D+01	DFFR DFRF 2.276305D-07 1.745128D+00	DFF 1.090894D+00	A0F A0R 5.132605D+00 4.692174D+00
AIF AIR -2.372058D-01 -6.851600D-01	B1F B1R 2.109634D+00 2.568682D+00	BETAOF BETAOR 5.340749D+00 5.300685D+00	B180F B180R 4.838993D+00 3.950262D+00	A270F A270R 7.379078D+00 5.981261D+00
CAPVF CAPVR 7.546198D+01 6.755760D+01	ALPHAF ALPHAR -2.64756D+01 -1.470973D+00	BETAFW BETARN 1.799650D+02 1.799650D+02	ATIPF ATIPR 1.787338D+02 1.807858D+02	BPTPF BPTPR 2.122729D+00 2.658491D+00

PAGE 5

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.671561D-01	8.042225D-02	3.640780D+00	
5.657997D-01	8.707877D-02	2.698218D+00	

4

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	MHLB
DELHPR	RHPR	WFF	RP
0.0	1.430610D+03	2.240780D+03	-1.784297D-02
0.0	7.101696D+02	2.241780D+03	-4.335841D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELRL	XALPHA
-6.548528D-02	1.289021D+00	2.202848D-01	8.157483D-01
-2.032680D-03	5.655140D-01	-1.401682D-03	-3.313911D-03
4.646550D-02	-2.568494D-01	-3.585763D-02	7.575345D-02
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELRL	ZALPHA
2.369990D-01	-7.444101D+00	-7.549499D-01	-4.806850D+00
5.860146D-03	3.249845D+00	6.333688D-04	9.553890D-03
-3.760359D-01	7.154474D-01	-1.962052D-02	-6.136574D-01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELRL	MALPHA
-4.424813D-03	7.732915D-01	4.092900D-01	-1.489903D-01
-1.503759D-03	-1.159498D+00	2.999484D-03	2.451603D-03
-1.693818D-02	-3.622707D-01	-9.219998D-04	-2.761459D-02
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELRL	YALPHA
4.922729D-04	-1.528507D+00	-1.411646D-01	5.617656D-02
3.674528D-02	2.607979D-01	8.971766D-01	5.990641D-02
5.744898D-03	-3.346348D-02	3.933668D-02	9.366000D-03
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELRL	LALPHA
-2.645621D-04	-8.516086D-01	-1.030905D-01	7.467059D-03
-1.882570D-03	3.008706D-01	4.168169D-01	-3.069184D-03
2.316032D-03	1.876717D-02	-1.278794D-01	3.775864D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELRL	NALPHA
2.810089D-04	-1.711555D-02	5.074219D-02	6.992069D-05
-1.785252D-03	-2.182379D-01	1.986990D-02	-2.910525D-03
6.251692D-05	-8.078280D-02	1.706115D-01	1.019223D-04

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.479D-04-0.	337D-01	0.335D-04	0.547D-04-0.	203D-02	0.265D-01
CTR	-0.293D-04-0.	207D-01	0.765D-04	0.125D-03	0.103D-02	0.428D-01
CHF	0.376D-05	0.265D-02	0.956D-07	0.156D-06	0.115D-03	0.983D-03
CHR	0.261D-05	0.184D-02	0.553D-07	0.902D-07	0.276D-03	0.741D-03
A1F	-0.749D-03-0.	528D+00	0.886D-05	0.144D-04	0.699D-01	0.216D+00
AIR	-0.561D-03-0.	396D+00	0.181D-03	0.296D-03	0.790D-01	0.264D+00
VFR	-0.446D-01-0.	314D+02	0.169D+00	0.276D+06	0.852D+01	0.521D+02
VRR	0.129D+00	0.907D+02	0.386D+00	0.630D+00	0.487D+01	0.155D+03
LF			0.208D+02	0.339D+02		
DF			0.417D+00	0.681D+00		
NF			-0.110D+03	-0.179D+03		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.330D-05-0.	539D-05	0.216D-03-0.	428D-04	0.548D-02
CYR	0.257D-05	0.419D-05	0.263D-03	0.323D-04	0.519D-02
B1F	0.662D-03	0.108D-02	0.780D-01	0.202D-01	0.104D+01
B1R	-0.652D-03	-0.106D-02	-0.755D-01	-0.277D-03	-0.103D+01
YF	0.419D+02	0.684D+02			
LF	0.119D+03	0.194D+03			
NF	-0.142D+03	-0.232D+03			
CTF				-0.748D-04	
CTR				0.181D-03	

FORCE = 0.241446D+07

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X	Z	H	Y	L	N	BICF	BICR	OMEGAF	OMEGAR
						0.208D+02	0.173D+02	0.0	0.0
						-0.163D+02	-0.811D+01	0.0	0.0
						0.740D+00	-0.425D+01	0.0	0.0
						-0.183D+00	0.587D+00	0.0	0.0
						-0.103D+00	0.186D+00	0.0	0.0
						0.553D-01	0.286D-01	0.0	0.0
						CTF	0.622D-02	-0.269D-02	0.0
						CTR	-0.455D-06	0.596D-02	0.0
						CHF	-0.554D-02	0.332D-04	0.0
						CHR	0.307D-06	-0.521D-02	0.0
						AIF	0.106D+01	-0.802D-02	0.0
						AIR	-0.799D-04	0.104D+01	0.0
						VFR	0.182D+02	-0.115D+02	0.0
						VRR	0.217D-01	0.215D+02	0.0
						QF	0.254D+01	-0.117D+01	0.0
						QR	0.552D-05	-0.226D+01	0.0
						QFU	QFP	QFDELB	QFDELTAC
						QFY	QFQ	QFDELS	QFBETA
						QFW	QFR	QFDELR	QFALPHA
						-0.136D-01	0.271D+00	0.114D+01	0.193D+01
						0.265D-03	-0.155D+01	0.167D-01	0.433D-03
						0.162D-01	-0.112D+01	0.208D-01	0.264D-01
						QRU	QRP	QRDELB	QRDELTAC
						QRV	QRQ	QRDELS	QRFBETA
						QRW	QRR	QRDELR	QRALPHA
						0.152D-01	0.882D+00	-0.569D+00	0.116D+01
						0.135D-02	-0.638D+00	-0.969D-02	0.220D-02
						-0.277D-01	0.539D+00	0.169D-01	-0.452D-01

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
-2.88888D+01	0.0	2.630000D+04	2.378000D-03	7.516876D+03
4.48888D+01	1.870297D+02	2.501661D+02	7.075247D+00	1.005199D+04
VTF	CGF	BETAF	P3I	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.850000D+02	6.239495D+00	0.0	0.0	-3.399354D+02
7.850000D+02	0.0	-2.379936D-01	0.0	1.242616D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFW
1.801511D+01	-8.198439D-01	-2.500000D+00	-2.500000D+00	1.589690D+02
1.575533D+01	-1.223279D+00	-2.500000D+00	-2.500000D+00	6.709006D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.688522D+01	1.768217D+00	1.373744D-01	-4.290099D-01	7.662963D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.254792D+04	3.092186D+02	-2.319909D+02	8.717283D+02	-7.710481D+02
1.2442598D+04	3.463771D+02	-3.214808D+02	9.448261D+02	-1.071467D+03
QF	LFZ	YFY	LF	RHPPF
QR	DFX	MF	NF	RHPR
2.832955D+04	-6.853126D+02	1.295854D+01	7.040030D+01	1.424052D+03
1.873952D+04	-7.566670D+01	3.272905D+03	-2.741504D+02	9.419867D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.2091137D+02	-6.033677D-01	2.466039D+03	2.466039D+03	8.106885D-03
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.879894D-02	7.876320D-03	6.600990D-01	-7.150190D-02
5.841923D-02	8.842362D-02	5.210054D-03	6.600663D-01	-4.422235D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR	DFF	A0R
4.786867D-02	2.383302D+01	1.384558D-07	1.311298D+00	5.074353D+00
4.791319D-02	3.115906D+01	8.985816D-01		4.806547D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
-1.414907D+00	1.252719D+00	6.472570D+00	3.642267D+00	6.251646D+00
-1.5335119D+00	1.739197D+00	6.407705D+00	3.271235D+00	5.489957D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
4.294391D+01	-3.820077D+01	1.799715D+02	1.761148D+02	1.889780D+00
3.377880D+01	-2.970259D-02	1.799715D+02	1.784946D+02	2.319784D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
RMTF	CTFP	A9BF		
RMTR	CTR	A9ORA		
5.9968806D-01	7.126498D-02	4.425703D+00		
5.980424D-01	8.809692D-02	3.705473D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NHLB
	DELHPR	RHPR	WFF	RP
0.0	1.424052D+03	2.466039D+03	-8.106885D-03	
0.0	9.419867D+02	2.467039D+03	-1.969973D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 2

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V FE 0.0 4.400000D+01	RC ALPHA 0.0 0.0	GW ALFF 2.430000D+04 2.700000D+02	RHO THETA 2.378000D-03 5.797543D+00	XFLW LF LW 1.255609D+04 5.734488D+02
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -2.041365D-01	PSI GAMMA 0.0 0.0	XR LW LR LW 1.264269D+04 5.733841D+02
THEOF THEOR 1.658122D+01 1.681019D+01	AICF AICR 3.650222D-01 -3.129794D-02	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFM -4.206290D-14 -9.188959D+02
THETAC 1.669570D+01	DELTAB -1.791586D-01	DELTIAS 1.316202D-01	DELTAR 6.124864D-02	DELTAC 7.516050D+00
TF TR 1.255609D+04 1.264269D+04	HF HR 5.734488D+02 5.733841D+02	YF YR 7.475013D+01 -1.435590D+01	MHF MHR 1.612828D+03 1.611185D+03	LHF LHR 2.079180D+02 -4.096610D+01
QF QR 2.253263D+04 2.349695D+04	LFZ DFX -9.188959D+02 -4.206290D-14	YFY MF -2.054317D-14 1.102675D+03	LF NF -1.244938D-13 6.178020D-13	RHFF RHPR 1.132656D+03 1.181130D+03
XR 2.478414D+03	L/DE 0.0	SHPTOT 2.413786D+03	WFF 2.414786D+03	NMLB 0.0
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSFR 8.924315D-02 8.936667D-02	CPSF CPSP 6.264633D-03 6.532736D-03	AMTF AMTR 6.317625D-01 6.315357D-01	LAMDAF LANDAR -5.530203D-02 -5.798444D-02
MUF MUR 4.595983D-19 1.292043D-18	VF VR 3.565511D+01	DFFR DFRF 1.406733D-01 5.209670D-02	DFF DFF 1.299000D+00	A0F A0R 4.994031D+00 5.019363D+00
A1F AIR 2.619589D+00 2.616918D+00	B1F B1R 3.375891D-01 -6.651482D-02	BETA0F BETA0R 2.343623D+00 2.362622D+00	B180F B180R 7.611752D+00 7.632671D+00	A270F A270R 4.970896D+00 5.036967D+00
CAPVF CAPVR 1.857965D+00 5.223194D+00	ALPHAF ALPHAR 2.700000D+02 2.700000D+02	BETAFW BETARN 0.0 0.0	ATIPF ATIPR -6.880411D+00 -4.383082D+00	BPTPF BPTPR 2.641252D+00 2.6117764D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTF	CTR _P	A90RA	
6.279886D-01	4.065543D-03	4.824445D+00	
6.283769D-01	4.065084D-03	4.899287D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
0.0	1.132656D+03	2.413786D+03	0.0
0.0	1.181130D+03	2.414786D+03	0.0

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.304430D-02	-3.821157D+00	6.176001D-02	5.921600D-01
-1.934286D-04	1.115055D+00	1.966374D-03	-6.157023D-04
1.048991D-01	-1.213834D-01	-3.656628D-02	3.339041D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
6.988000D-03	4.333519D+01	4.003623D-02	-5.760093D+00
1.535974D-03	2.958275D-01	-1.267439D-02	4.889156D-03
-1.244874D+00	-2.600074D-02	-6.246701D-03	-3.962558D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	NBETA
MW	MR	MDELR	MALPHA
-3.683835D-04	5.131754D+00	3.280632D-01	4.472352D-03
-2.645251D-04	-6.029958D-01	-1.598281D-03	-8.420094D-04
-1.169734D-01	-2.884334D-01	3.166027D-03	-3.723378D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-1.966522D-04	-9.420299D-01	1.294129D-03	2.203133D-02
-2.878837D-01	1.722269D-03	9.102605D-01	-9.163621D-01
3.945788D-03	-1.682173D-01	-3.298717D-03	1.255983D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.495275D-04	-8.451813D-01	-4.776171D-02	-5.429664D-03
-9.852081D-03	1.692071D-01	4.243508D-01	-3.136015D-02
8.197388D-03	-2.462894D-02	-1.462974D-01	2.609310D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
2.049411D-04	2.759618D-01	5.539545D-02	-1.602231D-03
2.098874D-03	-2.138066D-01	1.632103D-02	6.680923D-03
-9.107569D-03	-8.347065D-02	1.728073D-01	-2.899029D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.360D-05-0.254D-02	0.353D-04	0.112D-03-0	0.729D-03	0.422D-01	
CTR	-0.117D-05-0.827D-03	0.374D-03	0.119D-02	0.683D-03	0.413D-01	
CHF	0.273D-05 0.193D-02	0.203D-05	0.646D-05-0	0.223D-03	0.193D-02	
CHR	0.295D-05 0.208D-02	0.167D-04	0.533D-04-0	0.167D-03	0.188D-02	
AIF	0.903D-02 0.637D+01	0.904D-02	0.288D-01-0	0.752D-01	0.298D-02	
AIR	0.900D-02 0.635D+01	0.907D-02	0.289D-01-0	0.773D-01	0.267D-02	
VFR	-0.927D-01-0.654D+02	0.523D+00	0.167D+01-0	0.104D+02	0.154D+03	
VRR	-0.561D-01-0.396D+02	0.317D+01	0.101D+02	0.981D+01	0.140D+03	
LF		-0.465D+02-0	0.148D+03			
DF		-0.213D-14-0	0.677D-14			
MF		0.558D+02	0.178D+03			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.291D-05-0.926D-05	0.182D-03-0	0.749D-04	0.541D-02	
CYR	0.289D-05 0.921D-05	0.112D-03-0	0.222D-04	0.543D-02	
BIF	0.903D-02 0.288D-01	0.729D-01-0	0.180D-01	0.103D+01	
BIR	-0.901D-02-0.287D-01	0.776D-01-0	0.523D-03	0.103D+01	
YF	-0.203D+03-0.647D+03				
LF	-0.203D+02-0.647D+02				
NF	0.244D+03 0.777D+03				
CTF			0.148D-04		
CTR			-0.843D-05		

FORCE = 0.241446D+07

CASE 2

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	BICF	BICR	OMEGA F	OMEGA R
X Z H Y L N	0.171D+02 0.276D+01 -0.131D+01 0.393D+00 0.143D+00 0.493D-01	0.173D+02 0.221D+01 -0.129D+01 -0.483D+00 -0.278D+00 0.581D-01	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0
CTF	0.241D-04	0.201D-05	0.0	0.0
CTR	0.596D-05	-0.282D-04	0.0	0.0
CHF	-0.541D-02	-0.141D-05	0.0	0.0
CHR	0.365D-06	-0.545D-02	0.0	0.0
AIF	-0.193D+01	-0.690D-03	0.0	0.0
AIR	0.368D-04	-0.103D+01	0.0	0.0
VFR	0.142D+00	0.947D-01	0.0	0.0
VRR	-0.765D-01	0.162D-01	0.0	0.0
QF	0.753D-02	0.772D-02	0.0	0.0
QR	0.357D-03	-0.204D+00	0.0	0.0
QFU	QFP	QFDEL B	QFDEL TAC	QFDEL R
QFV	QFQ	QFD ELS	QFBETA	QFALPHA
QFW	QFR	QFD ELR		
-0.744D-03	0.217D+00	0.857D+00	0.175D+01	
-0.664D-03	0.124D+01	0.243D-03	-0.211D-02	
0.365D-02	-0.712D+00	0.258D-03	0.116D-01	
QRU	QRP	QRDEL B	QRDEL TAC	QRDEL R
QRV	QRQ	QRDELS	QRBETA	QRALPHA
QRW	QRR	QRDELR		
-0.549D-03	-0.983D+01	-0.883D+00	0.180D+01	
0.581D-03	0.141D+01	0.159D-02	0.185D-02	
0.285D+00	0.748D+00	0.131D-03	0.908D+00	

CASE 2

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V	RC	GW	RHO	XFLW
FE	ALPHA	ALFFF	THETA	LF LW
2.00000D+01	0.0	2.430000D+04	2.378000D-03	3.272988D+02
4.40000D+01	4.222208D+00	-4.450757D+01	4.295473D+00	1.225911D+04
VTF	CGF	BETAF	PSI	XR LW
YTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.339495D+00	0.0	-1.403693D-02	6.786005D+03
7.050000D+02	0.0	-2.090745D-01	0.0	1.055705D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.562337D+01	1.469029D+00	-2.500000D+00	-2.500000D+00	3.271737D+01
1.754527D+01	8.003489D-01	-2.500000D+00	-2.500000D+00	-5.029250D+02
THETAC	DELTAB	DELTA S	DEL TAR	DELTAC
1.658432D+01	-1.503829D+00	2.035431D-01	4.220131D-01	7.429706D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.223657D+04	8.119254D+02	2.829947D+02	2.153292D+03	8.024691D+02
1.252245D+04	8.303998D+02	1.982098D+02	2.3086292D+03	6.342405D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.347997D+04	-4.991513D+02	1.143636D+01	6.066778D+01	9.289395D+02
2.626047D+04	6.965630D+01	-1.425148D+03	-2.211535D+02	1.320045D+03
XR	L'DE	SHPTOT	WFF	NMLB
9.454014D+01	6.369165D-01	2.348984D+03	2.349984D+03	8.510695D-03
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSFR	CPSR	AMTR	LAMDAR
5.841923D-02	8.752121D-02	5.137891D-03	6.625239D-01	-4.690044D-02
5.841923D-02	8.889232D-02	7.301064D-03	6.646447D-01	-6.977825D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
4.771006D-02	2.992061D+01	7.804926D-01	1.315919D+00	5.046022D+00
4.785689D-02	2.418601D+01	1.156140D-03		5.071304D+00
A1F	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
3.498377D+00	1.303045D+00	1.318122D+00	8.483715D+00	5.511634D+00
3.750548D+00	1.029843D+00	1.268197D+00	8.802135D+00	6.225817D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
3.378141D+01	-5.325488D+00	3.600000D+02	-1.779416D+00	3.733171D+00
4.198594D+01	-3.652654D+01	3.600000D+02	9.727555D-01	3.889368D+00

CASE 2

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.966961D-01		CTFP	A90F	
5.969306D-01		CIRP	A90RA	
	8.691262D-02		4.023659D+00	
	7.484565D-02		4.239973D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPP	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	9.289395D+02	2.348984D+03	8.510695D-03	
0.0	1.320045D+03	2.349986D+03	2.068099D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 4.00000D+01 4.40000D+01	RC ALPHA 0.0 2.958033D+00	GW ALFFF 2.430000D+04 -1.391383D+01	RHO THETA 2.378000D-03 2.999007D+00	XF LW LF LW 4.442294D+02 1.204048D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -1.924909D-01	PSI GAMMA -9.717424D-03 0.0	XR LW LR LW 4.559397D+03 1.173446D+04
THEOF THEOR 1.449061D+01 1.73925D+01	AICF AICR 1.678944D+00 1.237082D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 2.173585D+02 -3.264661D+02
THETAC 1.594493D+01	DELTAB -2.792362D+00	DELTA S 1.267470D-01	DEL TAR 5.851937D-01	DELTAC 6.934051D+00
TF TR 1.201270D+04 1.254279D+04	HF HR 9.3044668D+02 1.078985D+03	YF YR 3.754777D+02 3.222928D+02	MHF MHR 2.674833D+03 2.994435D+03	LHF LHR 1.327956D+03 1.143544D+03
QF QR 1.353350D+04 2.504541D+04	LFZ DX -3.148145D+02 2.3339160D+02	YFY MF 3.011681D+01 -1.925790D+03	LF NF 1.260716D+02 -1.251055D+02	RHPF RHPR 6.802937D+02 1.258967D+03
XR 2.520333D+02	L/DE 1.486239D+00	SHPTOT 2.039261D+03	WFF 2.040261D+03	NMLB 1.960534D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS F CTS R 8.523872D-02 8.9011716D-02	CPS F CPS R 3.762651D-03 6.963248D-03	AMTF AMTR 6.936860D-01 6.967265D-01	LAMDAF LAMDAR -3.811770D-02 -7.131627D-02
MUF MUR 9.520243D-02 9.558803D-02	VF VR 1.917132D+01 1.717545D+01	DFFR DFRF 1.477477D+00 2.709087D-01	DIFF 1.111521D+00	AOF AOR 4.621644D+00 5.074918D+00
A1F AIR 4.347175D+00 4.867782D+00	B1F B1R 2.156651D+00 1.857046D+00	BETA OF BETA OR 2.450446D-01 1.158618D-01	B180F B180R 8.926337D+00 9.884652D+00	A270F A270R 5.866581D+00 7.214331D+00
CAPVF CAPVR 6.755760D+01 7.507403D+01	ALPHAF ALPHAR -6.541967D+00 -2.615024D+01	BETAEW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.194792D+00 8.258153D-01	BPTPF BPTPR 4.852739D+00 5.209983D+00

CASE 3

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.666840D-01		CTFP	A90F	
5.658011D-01		CTR	A90RA	
		8.536264D-02	2.642799D+00	
		8.319305D-02	3.3688920D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WFF	RP
3.064407D+00	6.833581D+02	2.045312D+03	1.954736D-02
2.986521D+00	1.261954D+03	2.046312D+03	4.750009D+02

STABILITY DERIVATIVES OUTPUT

	MASS	IXX	IYY	IZZ
	7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC	
XV	XQ	XDELS	XBETA	
XW	XR	XDELR	XALPHA	
-2.143321D-02	2.882085D-01	6.865435D-02	1.944923D-01	
-5.840114D-04	1.212447D+00	-1.993264D-03	-3.947241D-02	
-2.519812D-02	-2.719865D-02	-3.669489D-02	1.703101D+00	
ZU	ZP	ZDELB	ZDELTAC	
ZV	ZQ	ZDELS	ZBETA	
ZW	ZR	ZDELR	ZALPHA	
-1.309212D-01	-6.214221D+00	5.920884D-01	-5.263274D+00	
-5.650905D-03	-1.430721D+00	-6.292439D-04	3.819357D-01	
-5.576262D-01	-6.837868D-01	2.449122D-02	-3.768907D+01	
MU	MP	MDELB	MDELTAC	
MV	MQ	MDELS	MBETA	
MW	MR	MDELR	MALPHA	
-3.508178D-03	-5.992819D-01	3.922492D-01	1.101389D-01	
-1.174002D-03	-1.131568D+00	-2.836256D-03	-7.934894D-02	
1.427250D-03	-3.122540D-01	1.6668759D-03	9.646559D-02	
YU	YP	YDELB	YDELTAC	
YY	YQ	YDELS	YBETA	
YW	YR	YDELR	YALPHA	
1.558811D-04	-1.520977D+00	1.080736D-01	3.806736D-02	
-6.341512D-02	-1.712106D-01	8.812843D-01	-4.286128D+00	
7.767381D-03	-2.0888945D-01	-4.192476D-02	1.194545D-01	
LU	LP	LDELB	LDELTAC	
LV	LQ	LDELS	LBETA	
LW	LR	LDELR	LALPHA	
-4.748103D-04	-8.7012117D-01	4.456349D-03	5.243437D-03	
-1.349868D-02	7.8203355D-02	4.173798D-01	-9.123545D-01	
7.781002D-04	-4.417899D-02	-1.567908D-01	5.259056D-02	
NU	NP	NDELB	NDELTAC	
NV	NQ	NDELS	NBETA	
NW	NR	NDELR	NALPHA	
3.163407D-04	9.548003D-03	4.753941D-02	-2.613952D-03	
4.852968D-04	-2.108111D-01	1.256337D-02	3.280044D-02	
4.905832D-06	-6.380650D-02	1.677689D-01	3.315774D-04	

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.123D-04	0.864D-02	0.825D-04	0.558D-02	0.122D-02	0.432D-01
CTR	0.268D-04	0.189D-01	0.840D-04	0.568D-02	0.173D-02	0.311D-01
CHF	0.345D-05	0.243D-02	0.766D-05	0.518D-03	0.364D-03	0.451D-02
CHR	0.560D-05	0.395D-02	0.826D-05	0.559D-03	0.107D-04	0.384D-02
AIF	0.481D-03	0.339D+00	0.301D-03	0.203D-01	0.764D-01	0.265D+00
AIR	0.649D-03	0.452D+00	0.293D-03	0.198D-01	0.729D-01	0.243D+00
VFR	-0.192D+00	-0.136D+03	0.340D+00	0.230D+02	0.580D+01	0.151D+03
VRR	-0.559D-01	-0.394D+02	0.335D+00	0.226D+02	0.742D+01	0.722D+02
LF			0.177D+02	0.120D+04		
DF			0.540D+00	0.365D+02		
NF			0.731D+02	0.494D+04		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.246D-05	0.166D-03	0.239D-03	0.742D-04	0.511D-02
CYR	0.305D-05	0.206D-03	0.236D-03	0.891D-05	0.542D-02
B1F	0.669D-03	0.452D-01	0.716D-01	0.129D-01	0.103D+01
B1R	-0.676D-03	0.457D-01	0.820D-01	0.221D-02	0.104D+01
YF	-0.346D+02	-0.234D+04			
LF	-0.876D+02	-0.592D+04			
NF	0.419D+02	0.283D+04			
CTF			-0.143D-03		
CIR			-0.781D-04		

FORCE = 0.241446D+07

X Z H Y - L N	BICF	BICR	OMEGAF	OMEGAR
	0.148D+02	0.167D+02	0.0	0.0
	0.148D+02	0.219D+02	0.0	0.0
	-0.394D+01	0.817D+00	0.0	0.0
	-0.435D+00	0.895D-01	0.0	0.0
	-0.212D+00	-0.109D-01	0.0	0.0
	0.407D-01	0.516D-01	0.0	0.0
CTF	-0.583D-02	-0.207D-05	0.0	0.0
CTR	0.193D-02	-0.627D-02	0.0	0.0
CHF	-0.562D-02	-0.224D-06	0.0	0.0
CHR	0.185D-03	-0.604D-02	0.0	0.0
AIF	-0.104D+01	-0.166D-04	0.0	0.0
AIR	0.502D-02	-0.105D+01	0.0	0.0
VFR	-0.204D+02	0.190D-01	0.0	0.0
VRR	0.832D+01	-0.184D+02	0.0	0.0
QF	0.243D+01	0.112D-02	0.0	0.0
QR	0.503D+00	-0.186D+01	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.879D-02	0.714D+00	0.544D+00	0.111D+01	
-0.858D-03	0.318D+01	-0.935D-02	0.580D-01	
-0.322D-01	-0.303D+00	-0.148D-01	-0.218D+01	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
0.278D-03	-0.139D+00	-0.974D+00	0.181D+01	
0.575D-03	0.359D+01	0.119D-01	0.389D-01	
0.257D-01	0.695D+00	-0.191D-01	0.174D+01	

CASE 3

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
6.80000D+01	0.0	2.430000D+04	2.378000D-03	6.432143D+02
4.40000D+01	1.165660D+08	-6.285881D+08	1.262030D+00	1.185902D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+08	0.0	-3.928126D-03	2.441081D+03
7.05000D+02	0.0	-2.061450D-01	0.0	1.244072D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.422508D+01	1.113623D+08	-2.500000D+00	-2.500000D+00	5.365523D+02
1.644656D+01	8.714797D-01	-2.500000D+00	-2.500000D+00	-2.354223D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.533582D+01	-3.099752D+08	7.780997D-02	3.884910D-01	6.461875D+00
TF	MF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.182701D+04	1.082535D+03	2.617245D+02	3.140264D+03	1.138799D+03
1.2660972D+04	1.313563D+03	2.341688D+02	3.512064D+03	9.737418D+02
9F	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.214435D+04	-2.244584D+02	6.538969D+01	2.517527D+02	6.104647D+02
2.051747D+04	5.412305D+02	-2.195309D+03	1.143356D+02	1.031360D+03
XR	L/DE	SMP TOT	WFF	NMLB
6.182651D+02	2.750291D+08	1.741824D+03	1.742824D+03	3.442688D-02
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LAMDAR
5.841923D-02	8.372682D-02	5.376432D-03	7.239662D-01	-3.942276D-02
5.841923D-02	8.994627D-02	5.704368D-03	7.262548D-01	-6.259528D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
1.422216D-01	1.310352D+01	1.573114D+00	1.004817D+00	4.498818D+00
1.42950D-01	1.321285D+01	2.710547D-01		5.153336D+00
AIF	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
5.105459D+00	1.849337D+00	-6.834977D-01	9.506478D+00	6.542873D+00
5.711636D+00	1.581221D+00	-8.490971D-01	1.071704D+01	7.941028D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.013364D+02	-8.339340D+00	3.600000D+02	-3.228881D+00	5.430079D+00
1.054450D+02	-1.704846D+01	3.600000D+02	-1.225034D-01	5.926663D+00

CASE 3

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XFF	ZFF	HFF	TP
LFF	YFF	HFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR P	A90RA	
5.379133D-01	8.407614D-02	1.933704D+00	
5.364671D-01	8.820017D-02	2.624229D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
8.896527D+00	6.193613D+02	1.760054D+03	3.497051D-02
9.332912D+00	1.040692D+03	1.761054D+03	8.279134D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE	RC ALPHA 0.0 1.159829D+00	GW ALFF 2.430000D+04 -2.928543D+00	RHO THETA 2.378000D-03 1.192091D+00	XF LW LF LW LR LW
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -2.604910D-01	PSI GAMMA -5.168141D-03 0.0	XR LW LR LW 1.668408D+03 1.236700D+04
THEOF THEOR 1.462854D+01 1.602432D+01	A1CF A1CR 4.902362D-01 2.787471D-01	B1TF B1TR -8.000000D-01 -8.000000D-01	B1CF B1CR -8.000000D-01 -8.000000D-01	DFW LFW 9.589105D+02 -1.092233D+02
THETAC 1.532643D+01	DELTAB -3.032692D+00	DELTAS 6.929000D-02	DELTAR 1.508287D-01	DELTAC 6.454596D+00
TF TR 1.192108D+04 1.243228D+04	HF HR 9.442020D+02 1.079295D+03	YF YR 1.561211D+02 1.363192D+02	MHF MHR 2.653781D+03 2.957271D+03	LHF LHR 9.657345D+02 9.051176D+02
QF QR 1.288961D+04 1.802210D+04	LFZ DFX -8.979121D+01 9.609249D+02	YFY MF 9.284354D+01 -2.407283D+03	LF NF 3.814590D+02 2.862710D+02	RHPF RHPR 6.479267D+02 9.059237D+02
XR 9.862745D+02	L/DE 4.229110D+00	SHPTOT 1.653850D+03	WFF 1.654850D+03	NMLB 4.834274D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 8.497327D-02 8.882858D-02	CPSF CPSR 3.583632D-03 5.010592D-03	AMTF ANTR 7.526597D-01 7.546054D-01	LAMDAF LAMDAR -4.204782D-02 -5.725797D-02
MUF 1.896259D-01 1.906580D-01	I VF VR 1.004506D+01 1.021078D+01	DFFR DFRF 1.633360D+00 2.717945D-41	DFF 9.523807D-01	AOF AOR 4.556776D+00 4.865088D+00
A1F AIR 4.312897D+00 4.807226D+00	- B1F B1R 1.568215D+00 1.4669760D+00	BETAOF BETAOR 4.153410D-02 -1.657037D-01	B180F B180R 8.681258D+00 9.466234D+00	A270F A270R 7.715548D+00 8.634829D+00
CAPVF CAPVR 1.351152D+02 1.37751D+02	ALPHAF ALPHAR -8.340171D+00 -1.264490D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -4.027274D+00 -1.032945D+00	BPTPF BPTPR 4.589159D+00 5.026889D+00

PAGE 4

CASE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.077184D-01	8.459328D-02	1.472917D+00	
5.066350D-01	8.767755D-02	1.734904D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
1.910454D+01	6.670313D+02	1.692756D+03	4.723230D-02
1.980109D+01	9.257248D+02	1.693756D+03	1.147745D+03

STABILITY DERIVATIVES OUTPUT

	MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05	
XU	XP	XDELB	XDELTAC	
XV	XQ	XDELS	XBETA	
XW	XR	XDELR	XALPHA	
-3.423309D-02	1.429015D-01	8.604591D-02	1.011510D-01	
-1.466102D-04	1.375448D+00	5.262997D-02	-1.981403D-02	
2.307273D-02	-1.076379D-01	-3.679879D-02	3.118224D+00	
ZU	ZP	ZDELB	ZDELTAC	
ZV	ZQ	ZDELS	ZBETA	
ZW	ZR	ZDELR	ZALPHA	
-4.173269D-02	-2.231360D+00	5.860764D-01	-6.220970D+00	
4.922233D-03	-1.622070D+00	-7.377879D-02	6.652281D-01	
-6.115392D-01	-5.951774D-01	5.790555D-02	-8.266807D+01	
MU	MP	MDELB	MDELTAC	
MV	MQ	MDELS	MBETA	
MW	MR	MDELRL	MALPHA	
-4.745646D-03	-5.748655D-02	4.560569D-01	1.542648D-01	
-2.259209D-04	-1.321547D+00	-1.599936D-02	-3.053267D-02	
1.132873D-02	-3.343210D-01	1.783994D-03	1.531051D+00	
YU	YP	YDELB	YDELTAC	
YY	YQ	YDELS	YBETA	
YW	YR	YDELRL	YALPHA	
6.187725D-04	-1.523074D+00	6.722898D-02	3.404027D-02	
-9.268704D-02	-8.326679D-02	8.302603D-01	-1.252643D+01	
-1.962019D-03	-1.872456D-01	-3.378030D-02	-2.651622D-01	
LU	LP	LDELB	LDELTAC	
LV	LQ	LDELS	LBETA	
LW	LR	LDELRL	LALPHA	
-3.527871D-04	-8.400506D-01	7.229681D-03	5.713758D-03	
-1.373870D-02	4.787080D-02	3.830522D-01	-1.856752D+00	
-7.889768D-04	-3.990898D-02	-1.517989D-01	1.066283D-01	
NU	NP	NDELB	NDELTAC	
NV	NQ	NDELS	NBETA	
NW	NR	NDELRL	NALPHA	
3.626218D-04	-6.157235D-03	3.384157D-02	-2.576190D-03	
-1.802744D-03	-1.612547D-01	1.953351D-02	-2.436365D-01	
-1.229009D-04	-6.175349D-02	1.660837D-01	-1.660977D-02	

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.309D-05-0.218D-02	0.100D-03	0.136D-01-0.144D-02	0.515D-01		
CTR	0.161D-04 0.996D-02	0.770D-04	0.104D-01 0.202D-02	0.355D-01		
CHF	0.197D-05 0.139D-02	0.106D-04	0.163D-02-0.407D-03	0.643D-02		
CHR	0.415D-05 0.293D-02	0.858D-05	0.116D-02-0.202D-04	0.511D-02		
AIF	0.411D-03 0.290D+00	0.638D-03	0.862D-01-0.818D-01	0.571D+00		
AIR	0.569D-03 0.401D+00	0.501D-03	0.678D-01-0.646D-01	0.486D+00		
VFR	-0.778D-01-0.549D+02	0.205D+00	0.277D+02-0.309D+01	0.103D+03		
VRR	-0.403D-01-0.284D+02	0.157D+00	0.212D+02 0.434D+01	0.659D+02		
LF		0.318D+02	0.430D+04			
DF		-0.503D+00-0.680D+02				
NF		0.159D+03 0.216D+05				

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.240D-05-0.325D-03-0.236D-03-0.737D-04				0.509D-02
CYR	0.277D-05 0.374D-03	0.242D-03-0.150D-04			0.533D-02
BIF	0.106D-03 0.141D-01-0.691D-01-0.147D-01				0.103D+01
BIR	-0.106D-03-0.143D-01 0.770D-01-0.266D-02				0.103D+01
YF	-0.575D+02-0.777D+04				
LF	-0.102D+03-0.138D+05				
NF	-0.195D+03-0.263D+05				
CTF		-0.256D-03			
CTR		-0.210D-03			

FORCE = 0.241446D+07

		BICF	BICR	OMEGAF	OMEGAR
X	Z	0.134D+02	0.162D+02	0.0	0.0
Z	H	0.319D+02	0.453D+02	0.0	0.0
H	Y	-0.763D+01	0.329D+01	0.0	0.0
Y	L	-0.491D+00	0.487D-01	0.0	0.0
L	N	-0.481D+00	0.177D+00	0.0	0.0
N		0.197D+00	-0.699D-01	0.0	0.0
CTF		-0.135D-01	-0.245D-01	0.0	0.0
CTR		0.425D-02	-0.136D-01	0.0	0.0
CHF		-0.645D-02	-0.104D-06	0.0	0.0
CHR		0.459D-03	-0.676D-02	0.0	0.0
AIF		-0.110D+01	-0.245D-04	0.0	0.0
AIR		0.243D-01	-0.111D+01	0.0	0.0
VFR		-0.270D+02	-0.616D-02	0.0	0.0
VRR		0.916D+01	-0.265D+02	0.0	0.0
QF		0.624D+01	-0.942D-03	0.0	0.0
QR		-0.912D+00	0.192D+01	0.0	0.0
QFU		QFP	QFDELB	QFDeltaC	
QFV		QFQ	QFDELS	QFBETA	
QFW		QFR	QFDELR	QFALPHA	
		-0.545D-02	0.766D-01	0.447D+00	0.929D+00
		0.404D-03	0.403D+01	-0.140D-01	0.546D-01
		-0.482D-01	-0.357D+00	-0.213D-01	-0.652D+01
QRU		QRP	QRDELB	QRDeltaC	
QRV		QRQ	QRDELS	QRBeta	
QRW		QRR	QRDELR	QRAlpha	
		-0.105D-01	-0.116D+00	-0.621D+00	0.142D+01
		-0.345D-04	0.304D+01	-0.585D-01	-0.466D-02
		-0.160D-01	0.511D+00	-0.238D-01	-0.216D+01

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LFLW
1.00000D+02	0.0	2.43000D+04	2.37800D-03	1.046413D+03
4.40000D+01	1.294151D+00	-1.269716D+00	1.322749D+00	1.206686D+04
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+00	0.0	-7.085152D-03	1.442207D+03
7.05000D+02	0.0	-3.203898D-01	0.0	1.210630D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFF
1.551748D+01	-8.782984D-02	1.600000D+00	1.600000D+00	1.498153D+03
1.620124D+01	-1.749980D-01	1.600000D+00	1.600000D+00	5.071941D+01
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.585936D+01	-2.866791D+00	2.892584D-02	-5.699556D-02	6.867723D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.209267D+04	6.866033D+02	7.082619D+01	1.852735D+03	8.402921D+02
1.216957D+04	7.375674D+02	6.051872D+01	2.008030D+03	7.955531D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.529989D+04	8.454266D+01	1.283722D+02	5.204953D+02	7.690853D+02
1.792906D+04	1.496625D+03	-2.605233D+03	4.896018D+02	9.012471D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.522415D+03	5.727568D+00	1.770332D+03	1.771332D+03	5.645468D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.648561D-02	4.253750D-03	7.811216D-01	-4.582161D-02
5.841923D-02	8.656057D-02	4.984727D-03	7.824739D-01	-5.469797D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.383790D-01	8.136351D+00	6.124316D-41	9.252915D-01	4.642719D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
3.009586D+00	1.364473D+00	1.279446D+00	7.343538D+00	9.212882D+00
3.262110D+00	1.298309D+00	1.072123D+00	7.641980D+00	9.567496D+00
CAPVF	ALPHAF	BETAFW	AIIPF	BPTPF
CAPVR	ALPHAR	BETARW	AIIPR	BPTPR
1.688940D+02	-8.205849D+00	3.600000D+02	-5.196263D+00	3.304451D+00
1.707892D+02	-1.026186D+01	3.600000D+02	-2.443740D+00	3.510978D+00

PAGE 4

CASE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
RMTF		CTFP	A90F	
RMTR		CTRIP	A90RA	
4.773560D-01	8.554964D-02		1.111538D+00	
4.765305D-01	8.582923D-02		1.204016D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	HMLB
	DELHPR	RHPR	WFF	RP
3.703144D+01	8.061168D+02	1.844516D+03	5.418538D-02	
3.715246D+01	9.383996D+02	1.845516D+03	1.316705D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 5

PAGE 3

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LF LW
1.200000D+02	0.0	2.430000D+04	2.378000D-03	1.260445D+03
4.400000D+01	3.950123D-01	-1.383609D+00	4.402904D-01	1.219621D+04
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-2.897783D-03	1.589622D+03
7.050000D+02	0.0	-4.304547D-01	0.0	1.194967D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.652549D+01	-2.660313D-01	2.800000D+00	2.800000D+00	2.157337D+03
1.716219D+01	-3.559054D-01	4.000000D+00	4.000000D+00	8.479755D+01
THETAC	DELTAB	DELTIAS	DELTAAR	DELTAC
1.684384D+01	-3.174262D+00	1.029000D-02	-1.516481D-01	7.630884D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.224200D+04	6.854137D+02	5.8644929D+01	1.864533D+03	8.867044D+02
1.204642D+04	4.533266D+02	5.790984D+01	1.268156D+03	9.289536D+02
QF	LFZ	YF	LF	RHFF
QR	DFX	MF	NF	RHPR
1.867454D+04	9.966867D+01	1.861127D+02	7.586383D+02	9.286669D+02
2.104082D+04	2.156701D+03	-3.869964D+03	6.991866D+02	1.057667D+03
XR	L/DE	SHPIOT	WF	NMLB
2.195750D+03	7.010955D+00	2.086334D+03	2.087334D+03	5.748961D-02
SIGOF	CTSF	CPSF	AMTF	LANDAF
SIGOR	CTSR	CPSR	AMTR	LANDAR
5.841923D-02	8.676783D-02	5.136384D-03	8.107789D-01	-5.532464D-02
5.841923D-02	8.564260D-02	5.849871D-03	8.113728D-01	-5.856792D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
2.838569D-01	6.932082D+00	1.618399D+00	9.191692D-01	4.676605D+00
2.8555711D-01	6.759314D+00	2.715417D-01		4.598625D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	BIR	BETAOR	B180R	A270R
3.028768D+00	1.439853D+00	1.132310D+00	7.258837D+00	1.077835D+01
2.059491D+00	1.508474D+00	2.038464D+00	6.199418D+00	1.096130D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.026728D+02	-9.104988D+00	3.600000D+02	-6.076220D+00	3.353597D+00
2.042675D+02	-9.732481D+00	3.600000D+02	-4.545497D+00	2.552841D+00

PAGE 4

CASE 5

XFF	2FF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CITFP	A90F	
RMTR	CTRPF	A90RA	
4.475526D-01	8.646668D-02	7.513619D-01	
4.4666828D-01	8.471883D-02	7.403006D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
6.116725D+01	9.898342D+02	2.207432D+03	5.433720D-02
5.993081D+01	1.117598D+03	2.208432D+03	1.320394D+03

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.639774D-02	8.190768D-02	2.995072D-02	3.880805D-01
-7.295587D-04	1.232392D+00	-1.424371D-03	-1.478873D-01
4.534633D-02	-3.501802D-02	-3.933992D-02	9.192062D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.828268D-02	-8.565600D-01	4.419884D-01	-7.310245D+00
5.161436D-03	-2.111599D+00	-6.128484D-03	1.046264D+00
-6.890382D-01	-5.364988D-01	8.998662D-02	-1.396735D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-2.816400D-03	2.110222D-01	4.955564D-01	1.271578D-01
8.529271D-04	-1.369130D+00	-7.879279D-03	1.728951D-01
1.012176D-02	-3.561702D-01	1.518260D-03	2.051761D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.280255D-03	-1.044760D+00	7.739074D-03	-9.370916D-04
-1.290233D-01	-5.803616D-03	8.726928D-01	-2.615405D+01
-3.806622D-03	-1.652531D-01	9.023258D-03	-7.716324D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
2.141228D-04	-6.164785D-01	-2.586552D-02	-9.759720D-03
-1.637886D-02	6.529759D-02	4.1113135D-01	-3.320125D+00
-5.234853D-04	-2.376264D-02	-1.360597D-01	-1.061146D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.763654D-04	-4.439538D-02	5.373065D-02	-2.867393D-03
-3.698349D-03	-1.545054D-01	1.568339D-02	-7.496847D-01
-4.120916D-04	-8.277363D-02	1.659887D-01	-8.353424D-02

	BICF	BICR	OMEGAF	OMEGAR
X	0.105D+02	0.114D+02	0.0	0.0
Z	0.550D+02	0.711D+02	0.0	0.0
H	-0.106D+02	0.631D+01	0.0	0.0
Y	0.183D+00	-0.231D+00	0.0	0.0
L	-0.104D+00	-0.212D+01	0.0	0.0
N	-0.129D+00	0.236D+00	0.0	0.0
CTF	-0.218D-01	10.380D-06	0.0	0.0
CTR	0.512D-02	-0.220D-01	0.0	0.0
CHF	-0.666D-02	0.854D-07	0.0	0.0
CHR	0.315D-03	-0.629D-02	0.0	0.0
AIF	-0.122D+01	0.154D-04	0.0	0.0
AIR	0.456D-01	-0.122D+01	0.0	0.0
VFR	-0.295D+02	-0.599D-02	0.0	0.0
VRR	0.722D+01	-0.295D+02	0.0	0.0
QF	-0.407D+01	-0.441D-03	0.0	0.0
QR	0.721D+00	-0.671D+01	0.0	0.0
QFU	QFP	QFDELB	QFDLTAC	
QFY	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.591D-02	-0.518D+00	0.762D+00	0.176D+01	
-0.178D-03	0.243D+01	-0.144D-01	-0.361D-01	
-0.655D-02	-0.739D+00	-0.224D-01	-0.133D+01	
QRU	QRP	QRDELB	QRDLTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.720D-02	0.451D+00	-0.936D+00	0.186D+01	
-0.298D-03	0.199D+01	0.168D-01	-0.604D-01	
0.979D-02	0.824D+00	-0.293D-01	0.198D+01	

LONGITUDINAL

	U	MU	W	α	μ	θ	THETAC
CTF	-0.967D-05-0	6.82D-02	0.187D-03	0.218D-01-0	145D-02	0.581D-01	
CTR	0.139D-05	0.982D-03	0.879D-04	0.178D-01	0.218D-02	0.447D-01	
CHF	0.167D-05	0.117D-02	0.908D-05	0.184D-02	0.321D-03	0.572D-02	
CHR	0.269D-05	0.189D-02	0.584D-05	0.118D-02	0.436D-04	0.399D-02	
A1F	0.392D-03	0.276D+00	0.102D-02	0.206D+00	0.889D-01	0.899D+00	
A1R	0.511D-03	0.360D+00	0.843D-03	0.171D+00	0.590D-01	0.788D+00	
VFR	-0.468D-01-0	0.330D+02	0.147D+00	0.297D+02	0.208D+01	0.788D+02	
VRR	-0.303D-01-0	0.214D+02	0.120D+00	0.243D+02	0.299D+01	0.593D+02	
LF			0.490D+02	0.993D+04			
DF			-0.124D+01-0	0.252D+03			
MF			0.258D+03	0.524D+05			

LATERAL-DIRECTIONAL

	V	β	P	R	AIC
CYF	-0.274D-05-0	5.555D-03-0	1.67D-03-0	6.92D-04	0.523D-02
CYR	0.275D-05	0.557D-03	0.160D-03-0	0.174D-04	0.516D-02
B1F	-0.250D-03-0	0.506D-01-0	0.658D-01-0	0.169D-01	0.103D+01
B1R	0.352D-03-0	0.713D-01	0.722D-01	0.416D-03	0.103D+01
YF	-0.842D+02-0	0.171D+05			
LF	-0.143D+03-0	0.289D+05			
NF	-0.381D+03-0	0.772D+05			
CTF			-0.385D-03		
CTR			-0.320D-03		

FORCE = 0.241446D+07

V	RC	6W	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.380000D+02	0.0	2.430000D+04	2.378000D-03	1.616104D+03
4.400000D+01	-2.402931D+00	-3.801612D+00	-2.354478D+00	1.236303D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	2.808567D-02	1.759223D+03
7.050000D+02	0.0	-6.690385D-01	0.0	1.225039D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
1.801962D+01	-5.004017D-01	2.800000D+00	2.800000D+00	2.876691D+03
1.836381D+01	-4.503842D-01	4.000000D+00	4.000000D+00	-3.738493D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.819171D+01	-3.242715D+00	-1.434354D-02	-2.093533D-01	8.675746D+00
TF	HF	YF	NHF	LHF
TR	HR	YR	MHR	LHR
1.243054D+04	9.685729D+02	1.661899D+01	2.762167D+03	9.748453D+02
1.235471D+04	7.267564D+02	3.408272D+01	2.117073D+03	1.025765D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.439464D+04	-4.941309D+02	3.005964D+02	1.187386D+03	1.226255D+03
2.595531D+04	2.858487D+03	-8.273207D+03	8.411347D+02	1.304705D+03
XR	L/DE	SHPTOT	WFF	NMLB
2.917580D+03	7.384052D+00	2.630960D+03	2.631960D+03	5.243241D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.795365D-02	6.782317D-03	8.380443D-01	-7.686978D-02
5.841923D-02	8.744927D-02	7.216223D-03	8.385054D-01	-7.515433D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.234926D-01	6.120732D+00	1.448361D+00	9.377109D-01	4.816665D+00
3.261590D-01	6.040123D+00	6.91124D-39		4.797673D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.489398D+00	1.583014D+00	-3.905801D-01	8.702220D+00	1.265376D+01
3.439462D+00	1.665722D+00	6.190119D-01	7.619642D+00	1.279867D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPPR
2.330737D+02	-1.190293D+01	6.348524D-18	3.525865D+02	4.760318D+00
2.3466851D+02	-1.153862D+01	6.296624D-18	3.540365D+02	3.821587D+00

CASE 6

	XFF	ZFF	MFF	TP
	LFF	YFF	HFF	
RMTF	0.0	0.0	0.0	0.0
RNTF	0.0	0.0	0.0	
4.220026D-01		CTFP	A90F	
4.202783D-01		CTR _P	A90RA	
		8.764939D-02	5.334493D-01	
		8.685081D-02	5.517916D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	SHPTOT	NNMLB
	RHPF	WFF	RP
8.433131D+01	1.310586D+03	2.798854D+03	4.928828D-02
8.356295D+01	1.388268D+03	2.799854D+03	1.197705D+03

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.846332D-02	1.0474665D-01	6.143441D-02	2.171377D-01
-4.294899D-04	3.756922D-01	7.614798D-04	-9.793744D-02
4.634030D-02	-5.270051D-02	-2.749502D-02	1.079324D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.947454D-02	-6.805586D-01	4.040836D-01	-7.873022D+00
7.434317D-03	-2.309952D+00	-2.264150D-02	1.731547D+00
-7.260229D-01	-4.8506415D-01	1.076309D-01	-1.691000D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-2.337730D-03	2.612902D-01	5.109058D-01	1.239089D-01
1.435766D-03	-1.309157D+00	-1.174860D-02	3.344081D-01
9.195315D-03	-3.890202D-01	4.776473D-04	2.141706D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YY	YR	YDELR	YALPHA
3.321872D-03	-6.149747D-01	-4.418937D-02	4.838395D-03
-1.492191D-01	1.472928D-01	8.912626D-01	-3.475502D+01
-8.886902D-03	-9.240292D-02	5.859024D-03	-2.069872D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
1.080134D-03	-4.450015D-01	-6.366107D-02	-1.601273D-02
-1.935327D-02	1.590369D-01	6.183074D-01	-4.507623D+00
-3.773720D-04	2.809824D-02	-1.396009D-01	-8.789474D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.756762D-04	-5.811501D-02	8.011623D-02	-2.921674D-03
-3.304962D-03	-1.919054D-01	1.614435D-02	-7.697678D-01
-1.324817D-03	-1.074388D-01	1.687527D-01	-3.085668D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.821D-05-0.579D-02	0.109D-03	0.255D-01-0.143D-02	0.607D-01		
CTR	0.654D-06 0.461D-03	0.936D-04	0.218D-01 0.218D-02	0.496D-01		
CHF	0.155D-05 0.109D-02	0.931D-05	0.217D-02 0.175D-03	0.756D-02		
CHR	0.223D-05 0.157D-02	0.608D-05	0.142D-02 0.857D-04	0.562D-02		
A1F	0.424D-03 0.299D+00	0.118D-02	0.275D+00-0.907D-01	0.106D+01		
A1R	0.524D-03 0.369D+00	0.102D-02	0.239D+00-0.565D-01	0.958D+00		
VFR	-0.355D-01-0.250D+02	0.131D+00	0.305D+02-0.177D+01	0.716D+02		
VRR	-0.245D-01-0.173D+02	0.112D+00	0.260D+02 0.264D+01	0.576D+02		
LF		0.580D+02 0.135D+05				
DF		-0.605D+00-0.141D+03				
MF		0.284D+03 0.661D+05				

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.294D-05-0.685D-03-0.101D-03-0.590D-04	0.532D-02			
CYR	0.296D-05 0.688D-03 0.917D-04-0.299D-04	0.522D-02			
B1F	-0.217D-03-0.504D-01-0.643D-01-0.164D-01	0.103D+01			
Y1F	-0.985D+02-0.229D+05	0.707D-01-0.121D-02	0.104D+01		
LF	-0.183D+03-0.426D+05				
NF	-0.344D+03-0.802D+05				
CTF		-0.452D-03			
CTR		-0.373D-03			

FORCE = 0.241446D+07

X	Z	H	Y	L	N	BICF	BICR	OMEGAF	OMEGAR
						0.114D+02	0.125D+02	0.0	0.0
						0.676D+02	0.827D+02	0.0	0.0
						-0.118D+02	0.743D+01	0.0	0.0
						0.500D+00	-0.444D+00	0.0	0.0
						0.358D+00	-0.209D+00	0.0	0.0
						-0.584D+00	0.575D+00	0.0	0.0
						CTF	-0.253D-01	0.232D-05	0.0
						CTR	0.472D-02	-0.256D-01	0.0
						CHF	-0.754D-02	0.409D-06	0.0
						CHR	0.289D-03	-0.708D-02	0.0
						AIF	-0.129D+01	0.806D-04	0.0
						AIR	0.485D-01	-0.129D+01	0.0
						VFR	-0.298D+02	-0.334D-01	0.0
						VRR	0.580D+01	-0.300D+02	0.0
						QF	-0.146D+02	0.114D-02	0.0
						QR	0.421D+01	-0.171D+02	0.0
						QFU	QFP	QFDELB	QFDelta
						QFV	QFQ	QFDELS	QFBeta
						QFW	QFR	QFDELR	QFAlpha
						-0.394D-02	-0.554D+00	0.133D+01	0.237D+01
						0.872D-03	-0.229D+00	0.117D-02	0.203D+00
						0.809D-01	-0.112D+01	0.147D-02	0.188D+02
						QRU	QRP	QRDELB	QRDelta
						QRV	QRQ	QRDELS	QRBeta
						QRW	QRR	QRDELR	QRAlpha
						0.489D-02	0.898D+00	-0.131D+01	0.233D+01
						-0.109D-02	0.192D+01	0.109D-01	-0.254D+00
						0.820D-01	0.122D+01	0.543D-02	0.191D+02

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
8000 ft	0 kt	0 ft/min	0 deg	X
	20			
	40			X
	60			
	80			X
	93			X

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
0.0	0.0	2.430000D+04	1.871352D-03	1.255399D+04
4.400000D+01		2.700000D+02	5.780179D+00	5.774422D+02
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	0.0	1.264419D+04
7.050000D+02	0.0	-2.379150D-01	0.0	5.774361D+02
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.837373D+01	4.671129D-01	-2.500000D+00	-2.500000D+00	-4.206186D-14
1.866041D+01	4.121273D-02	-2.500000D+00	-2.500000D+00	-9.188731D+02
THETAC	DELIAB	DELTA S	DELTAR	DELTAC
1.851707D+01	-2.243181D-01	1.418198D-01	9.618342D-02	8.927961D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.255399D+04	5.774422D+02	9.323496D+01	1.621741D+03	2.559812D+02
1.264419D+04	5.774361D+02	-1.052017D+01	1.590655D+03	-3.592356D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
2.619151D+04	-9.188731D+02	-2.054266D-14	-1.244907D-13	1.316579D+03
2.752142D+04	-4.206186D-14	1.102648D+03	6.177867D-13	1.383430D+03
52	XR	L/DE	SHPTOT	WFF
2.470291D+03	0.0	2.80009D+03	2.801009D+03	0.0
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	1.132681D-01	9.253387D-03	6.507321D-01	-6.233546D-02
5.841923D-02	1.142206D-01	9.723241D-03	6.503524D-01	-6.536710D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOF
5.181262D-19	4.185191D+01	1.406733D-01	1.299000D+00	5.030955D+00
1.456358D-18	4.019554D+01	5.209670D-02		5.098750D+00
A1F	B1F	BETAO F	B180F	A270F
A1R	B1R	BETAO R	B180R	A270R
2.634075D+00	4.156287D-01	2.369966D+00	7.663743D+00	6.380944D+00
2.583550D+00	-5.832747D-02	2.518245D+00	7.682487D+00	6.467200D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPFF
CAPVR	ALPHAR	BETARW	ATIPR	BTPPR
2.094569D+00	2.700000D+02	0.0	-6.865925D+00	2.666664D+00
5.887448D+00	2.700000D+02	0.0	-4.416450D+00	2.584208D+00

CASE 7

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
6.462660D-01	5.202221D-03	6.210360D+00	
6.467171D-01	5.202166D-03	6.392136D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
	1.316579D+03	2.800009D+03	0.0
0.0	1.383430D+03	2.801009D+03	0.0

MAIN 00009720 000B5E58 00743808 000B4FFF

ENTRY POINT = 000B5E58

STANDARD FIXUP TAKEN : EXECUTION CONTINUING

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYI	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.617273D-02	-3.493415D+00	5.065764D-02	4.831579D-01
-7.947205D-05	1.392590D+00	-2.166678D-03	-2.529674D-04
9.357553D-02	-1.131020D-01	-4.635538D-02	2.9786602D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
4.867614D-03	3.958678D+01	2.936230D-02	-4.741352D+00
1.131791D-03	3.177530D-01	-1.386154D-03	3.602603D-03
-1.121650D+00	-3.568254D-02	-5.816346D-03	-3.570322D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
2.028753D-04	4.993553D+00	2.694094D-01	3.366255D-03
-3.232944D-04	-5.378240D-01	1.957283D-04	-1.029078D-03
-1.084490D-01	-2.951252D-01	3.367071D-03	-3.452039D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-1.754060D-04	-1.088243D+00	2.180337D-03	1.964942D-02
-2.872240D-01	9.962666D-03	9.148049D-01	-9.142624D-01
2.874660D-03	-1.899038D-01	-6.269313D-03	9.150329D-03
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.144532D-04	-9.958872D-01	-5.058596D-02	-7.354727D-03
-1.164418D-02	1.723979D-01	4.266191D-01	-3.706459D-02
8.506953D-03	-1.661526D-02	-1.482865D-01	2.707847D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.761189D-04	3.013900D-01	5.894740D-02	-1.186232D-03
2.020441D-03	-2.127605D-01	1.628288D-02	6.431265D-03
-1.006997D-02	-1.098490D-01	1.738691D-01	-3.205369D-02

LONGITUDINAL		U	MU	W	ALPHA	Q	THETAC
CTF	-0.375D-05-0	264D-02	0.356D-04	0.113D-03-0	751D-03	0.441D-01	
CTR	-0.139D-05-0	978D-03	0.435D-03	0.139D-02	702D-03	0.432D-01	
CHF	0.423D-05-0	298D-02	0.228D-05	0.725D-05-0	325D-03	0.205D-02	
CHR	0.452D-05-0	319D-02	0.196D-04	0.625D-04-0	274D-03	0.200D-02	
A1F	0.909D-02	641D+01	0.908D-02	0.289D-01-0	948D-01	0.380D-02	
A1R	0.904D-02	637D+01	0.912D-02	0.290D-01-0	980D-01	0.376D-02	
VFR	-0.920D-01-0	649D+02	0.500D+00	0.159D+01-0	101D+02	0.143D+03	
VRR	-0.539D-01-0	388D+02	0.342D+01	0.109D+02-0	974D+01	0.130D+03	
LF		-0.456D+02-0	145D+03				
DF		-0.209D-14-0	665D-14				
NF		0.548D+02	0.174D+03				

LATERAL-DIRECTIONAL

		V	BETA	P	R	AIC
CYF	-0.442D-05-0	141D-04-0	281D-03-0	114D-03	690D-02	
CYR	0.443D-05-0	141D-04	0.151D-03-0	388D-04	696D-02	
B1F	0.909D-02	0.289D-01-0	0.922D-01-0	224D-01	104D+01	
B1R	-0.905D-02-0	0.288D-01	0.980D-01-0	150D-02	104D+01	
YF	-0.200D+03-0	637D+03				
LF	-0.200D+02-0	637D+02				
NF	0.240D+03	0.764D+03				
CTF				-0.138D-06		
CTR				0.414D-05		

FORCE = 0.190004D+07

BICF	DICR	OMEGAF	OMEGAR
0.171D+92	0.174D+92	0.0	0.0
0.274D+01	0.204D+01	0.0	0.0
-0.130D+01	-0.133D+01	0.0	0.0
0.438D+00	-0.505D+00	0.0	0.0
0.178D+00	-0.282D+00	0.0	0.0
0.612D-01	0.550D-01	0.0	0.0
CTF	0.533D-04	-0.714D-05	0.0
CTR	-0.547D-06	0.482D-04	0.0
CHF	-0.690D-02	-0.138D-05	0.0
CHR	0.288D-06	-0.696D-02	0.0
AIF	-0.104D+01	-0.318D-03	0.0
AIR	0.871D-04	-0.104D+01	0.0
VFR	0.287D+00	0.114D+00	0.0
VRR	-0.523D-01	0.232D+00	0.0
QF	0.497D-02	0.324D-02	0.0
QR	-0.133D-02	-0.739D-02	0.0
QFU	QFP	QFDELB	QFDLTAC
QFY	QFQ	QFDELS	QFBETA
QFW	QFR	QFDELR	QFALPHA
-0.111D-02	0.289D+00	0.914D+00	0.183D+01
-0.976D-03	0.125D+01	0.207D-03	-0.311D-02
0.513D-02	-0.978D+00	-0.421D-04	0.163D-01
QRU	QRP	QRDELB	QRDLTAC
QRV	QRQ	QRDELS	QRBETA
QRW	QRR	QRDELR	QRALPHA
-0.749D-03	-0.110D+02	-0.940D+00	0.189D+01
0.922D-03	0.148D+01	0.291D-04	0.294D-02
0.321D+00	0.104D+01	-0.627D-04	0.102D+01

CASE 5

PAGE 3

V FE 2.00000D+01 4.40000D+01	RC ALPHA 0.0 3.987624D+00	GW ALFFF 2.630000D+00 -5.017435D+01	RHO THETA 1.871352D-03 4.062353D+00	XF LW LF LW 3.374878D+02 1.223911D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -2.465678D-01	PSI GAMMA -1.544210D-02 0.0	XR LW LR LW 7.000224D+03 1.049383D+04
THEOF THEOR 1.738996D+01 1.937127D+01	AICF AICR 1.669134D+00 8.730811D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 2.211345D+01 -5.479896D+02
THEIAC 1.838062D+01	DELTAB -1.550323D+00	DELTAS 2.483667D-01	DEL TAR 4.956809D-01	DELTAC 8.822183D+00
TF TR 1.221309D+04 1.256310D+04	HF HR 8.661433D+02 8.883374D+02	YF YR 3.098580D+02 2.054735D+02	MHF MHR 2.284174D+03 2.468112D+03	LHF LHR 8.372258D+02 6.760378D+02
QF QR 2.196801D+04 3.031150D+04	LFZ DFX -5.451252D+02 6.016766D+01	YFY MF 1.030482D+01 -1.294720D+03	LF NF 5.598518D+01 -2.18343D+02	RHPF RHPR 1.104274D+03 1.523679D+03
XR 8.521357D+01	L/DE 5.481316D-01	SHPTOT 2.727954D+03	WFF 2.728954D+03	NMLB 7.328817D-03
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 1.104907D-01 1.129172D-01	CPSF CPSR 7.761234D-03 1.070897D-02	AMTF AMTR 6.825265D-01 6.851425D-01	LAMDAF LAMDAR -5.446589D-02 -7.769299D-02
MUF MUR 4.769162D-02 4.784699D-02	VF VR 3.507234D+01 2.8664144D+01	DFFR DFFR 6.939398D-01 2.5531074D-03	DFF 1.342147D+00	AUF AOR 5.112501D+00 5.107701D+00
AIF AIR 3.711304D+00 4.010636D+00	B1F B1R 1.359493D+00 1.097719D+00	BETA0F BETA0R 1.138426D+00 1.086741D+00	B180F B180R 8.744326D+00 9.108996D+00	A270F A270R 7.049743D+00 7.864021D+00
CAPVF CAPVR 3.378592D+01 4.2658861D+01	ALPHAF ALPHAR -5.636087D+00 -3.774472D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -1.801072D+00 9.982600D-01	BPTPF BPTPR 3.952468D+00 4.158147D+00

CASE 5

PAGE 4

	XFF	ZFF	MFF	TP
LFF	YFF	NFF		
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR	A90RA		
6.139091D-01	1.102631D-01	5.228496D+00		
6.142615D-01	9.453969D-02	5.406369D+00		

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NON UNIFORM DOWNMASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
DELHPPF	RHPF	WFF	RP
0.0	1.104274D+03	2.727954D+03	7.328817D-03
0.0	1.523679D+03	2.728954D+03	1.780902D+02
			STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
4.00000D+01	0.0	2.43000D+04	1.871352D-03	4.265085D+02
4.40000D+01	2.553400D+00	-1.847231D+01	2.589720D+00	1.198017D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-9.292161D-03	5.128600D+03
7.050000D+02	0.0	-2.131963D-01	0.0	1.161051D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.618684D+01	2.208384D+00	-2.500000D+00	-2.500000D+00	1.667622D+02
1.957278D+01	1.651745D+00	-2.500000D+00	-2.500000D+00	-3.696623D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.787981D+01	-2.931093D+00	1.802104D-01	7.770139D-01	8.433962D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.194381D+04	1.025555D+03	4.804642D+02	2.981971D+03	1.643872D+03
1.263475D+04	1.212206D+03	4.122872D+02	3.368952D+03	1.364229D+03
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.611841D+04	-3.618659D+02	2.411020D+01	1.079782D+02	8.102300D+02
3.082877D+04	1.830652D+02	-1.946606D+03	-1.830697D+02	1.549682D+03
XR	L/DE	SHPTOT	WFF	WFLB
1.975224D+02	1.225471D+00	2.459912D+03	2.460912D+03	1.625414D-02
SIGOF	CTSF	CPSF	AMTF	LANDAF
SIGOR	CTSR	CPSR	AMTR	LANDAR
5.841923D-02	1.078600D-01	5.694587D-03	7.151523D-01	-4.504409D-02
5.841923D-02	1.138041D-01	1.089172D-02	7.193278D-01	-8.305573D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
9.512295D-02	2.357677D+01	1.381818D+00	1.154039D+00	4.708916D+00
9.553795D-02	2.071199D+01	6.041651D-01		5.188487D+00
A1F	B1F	BETAO F	B180F	A270F
AIR	B1R	BETAO R	B180R	A270R
4.847472D+00	2.670047D+00	-1.969563D-01	9.507699D+00	7.672734D+00
5.478358D+00	2.215589D+00	-3.925981D-01	1.060496D+01	9.316301D+00
CAPVF	ALPHAF	BETAFW	AIIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
6.755760D+01	-6.446600D+00	3.600000D+02	-2.099128D+00	5.534179D+00
7.724433D+01	-2.931235D+01	3.600000D+02	1.031759D+00	5.909420D+00

CASE 8

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.8	0.0	0.0	0.0	
0.6	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTF	CTR P	A90RA		
5.824872D-01	1.079303D-01	3.551330D+00		
5.816741D-01	1.045999D-01	4.412854D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELIHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.049056D+00	8.132791D+02	2.465916D+03	1.621458D-02	
2.954973D+00	1.552637D+03	2.466916D+03	3.940143D+02	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.368908D-02	1.864320D-01	5.142304D-02	1.002502D-01
-8.675217D-04	1.309003D+00	-3.920067D-03	-5.865479D-02
1.443661D-02	-1.046566D-01	-4.869243D-02	9.760865D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.147728D-01	-5.201121D+00	4.052384D-01	-4.412157D+00
4.247164D-03	-1.147957D+00	1.307289D-03	2.871588D-01
-4.806240D-01	-4.529105D-01	4.254346D-02	-3.249590D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	NBETA
MW	MR	MDELR	MALPHA
-1.567277D-03	-5.020724D-01	3.098325D-01	7.743218D-02
-1.424419D-03	-9.041313D-01	-3.846538D-03	-9.630769D-02
-3.130138D-03	-3.272410D-01	3.661124D-03	-2.116346D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.524279D-04	-1.681745D+00	1.026548D-01	4.167162D-02
-6.095354D-02	-1.542076D-01	8.868036D-01	-4.121184D+00
6.070000D-04	-2.586146D-01	-5.190960D-02	4.104042D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.362392D-04	-1.007651D+00	-8.288472D-03	6.826347D-03
-1.508729D-02	8.448938D-02	4.205206D-01	-1.020080D+00
3.552349D-04	-4.329198D-02	-1.607598D-01	2.401810D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.298259D-04	8.402820D-03	5.883415D-02	-6.638341D-03
7.320410D-04	-2.131155D-01	1.173230D-02	4.949468D-02
-1.980788D-04	-9.308699D-02	1.690719D-01	-1.339248D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.157D-04	0.111D-01	0.821D-04	0.555D-02-0.	115D-02	0.443D-01
CTR	0.280D-04	0.197D-01	0.101D-03	0.683D-02	0.169D-02	0.346D-01
CHF	0.512D-05	0.361D-02	0.905D-05	0.612D-03-0.	465D-03	0.542D-02
CHR	0.761D-05	0.537D-02	0.113D-04	0.764D-03-0.	654D-04	0.444D-02
AIF	0.599D-03	0.422D+00	0.316D-03	0.213D-01-0.	951D-01	0.275D+00
AIR	0.777D-03	0.548D+00	0.352D-03	0.238D-01-0.	926D-01	0.260D+00
VFR	-0.216D+00-0.152D+03	0.348D+00	0.348D+00	0.235D+02-0.	568D+01	0.146D+03
VRR	-0.633D-01-0.449D+02	0.409D+00	0.409D+00	0.277D+02	891D+03	0.734D+02
LF			0.132D+02	0.891D+03		
DF			-0.515D-01-0.	348D+01		
MF			0.465D+02	0.314D+04		

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.384D-05-0.	260D-03-0.	340D-03-0.	124D-03	0.650D-02	
CYR	0.481D-05	0.325D-03	0.329D-03	0.217D-04	0.698D-02	
BIF	0.676D-03	0.457D-01-0.	905D-01-0.	185D-01	0.103D+01	
BIR	-0.686D-03-0.	464D-01	0.102D+00-0.	526D-02	0.104D+01	
YF	-0.296D+02-0.	200D+04				
LF	-0.796D+02-0.	538D+04				
NF	0.677D+02	0.458D+04				
CTF				-0.220D-03		
CTR				-0.246D-03		

FORCE = 0.190004D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.152D+02	0.172D+02	0.0	0.0
Z	0.133D+02	0.179D+02	0.0	0.0
H	-0.330D+01	0.354D+00	0.0	0.0
Y	-0.367D+00	0.451D-01	0.0	0.0
L	-0.136D+00	-0.552D-01	0.0	0.0
N	0.916D-03	0.969D-01	0.0	0.0
CTF	-0.589D-02	-0.855D-05	0.0	0.0
CTR	0.159D-02	-0.634D-02	0.0	0.0
CHF	-0.709D-02	-0.183D-05	0.0	0.0
CHR	0.173D-03	-0.767D-02	0.0	0.0
AIF	-0.104D+01	-0.252D-03	0.0	0.0
AIR	0.443D-02	-0.106D+01	0.0	0.0
VFR	-0.194D+02	0.114D+00	0.0	0.0
VRR	0.699D+01	-0.170D+02	0.0	0.0
QF	0.123D+01	0.900D-02	0.0	0.0
QR	0.638D+00	-0.321D+01	0.0	0.0
QFU	QFP	QFDEL B	QFDEL TAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDEL R	QRALPHA	
-0.923D-02	10.100D+01	0.676D+00	0.137D+01	
0.545D-03	0.369D+01	-0.748D-02	0.368D-01	
-0.168D-01	-0.434D+00	-0.168D-01	-0.114D+01	
QRU	QRP	QRDEL B	QRDEL TAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
0.526D-02	0.496D-01	-0.119D+01	0.220D+01	
0.105D-02	0.424D+01	0.994D-02	0.712D-01	
0.475D-01	0.111D+01	-0.211D-01	0.321D+01	

CASE 6

PAGE 3

V	RC	GW	RH0	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
6.00000D+01	0.0	2.430000D+04	1.871352D-03	4.106842D+02
4.40000D+01	7.023293D+00	-2.365887D+00	7.084245D+00	1.256752D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-2.797723D-02	3.592277D+03
7.050000D+02	0.0	-2.290885D-01	0.0	1.124784D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	UFFW
1.612595D+01	1.367398D+00	2.800000D+00	2.800000D+00	4.134796D+02
1.883022D+01	1.055073D+00	4.000000D+00	4.000000D+00	-6.886911D+01
THETAC	DELTAB	DEL TAS	DELTAR	DELTAC
1.747808D+01	-3.227125D+00	9.777577D-02	5.132566D-01	8.122545D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.257353D+04	1.327826D+02	3.669268D+02	3.664549D+02	1.456623D+03
1.180741D+04	-5.856351D+01	3.089731D+02	-1.472476D+02	1.294475D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.491656D+04	-1.779503D+01	3.859397D+01	1.601414D+02	7.498162D+02
2.631137D+04	4.187979D+02	-9.422170D+02	1.275432D+02	1.322604D+03
XR	L/DE	SHPTOT	WFF	NMLB
4.644476D+02	2.145451D+00	2.172420D+03	2.173420D+03	2.760626D-02
SIGOF	CISF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	1.133735D-01	5.269977D-03	7.420380D-01	-3.143366D-02
5.841923D-02	1.060143D-01	9.295732D-03	7.427006D-01	-6.706903D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.436053D-01	1.778114D+01	1.791363D+00	9.952638D-01	4.862858D+00
1.437396D-01	1.546852D+01	7.145039D-39		4.716960D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
5.625323D-01	2.365724D+00	4.178490D+00	5.301515D+00	9.006947D+00
-2.390799D-01	2.102252D+00	4.831982D+00	4.347880D+00	9.597125D+00
CAPVF	ALPHAF	BETAFW	AIIPF	BPTPF
CAPVR	ALPHAR	BETARW	AIIPR	BPTPR
1.013364D+02	-2.476707D+00	3.600000D+02	-1.914175D+00	2.431685D+00
1.062122D+02	-1.742799D+01	3.600000D+02	-2.157868D-01	2.115803D+00

PAGE 4

CASE 6

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.507568D+01	CTFP	A90F		
5.529694D+01	CTR	A90RA		
	1.132218D+01	2.815044D+00		
	1.013327D+01	3.214087D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHP	WFF	RP
9.428037D+00	7.592443D+02	2.190286D+03	2.738118D-02	
8.438027D+00	1.331042D+03	2.191286D+03	6.653628D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHO	XF LW
FE 8.00000D+01 4.40000D+01	ALPHA 0.0 5.176306D+00	ALFF 2.430000D+04 7.504423D-02	THETA 1.871352D-03 5.256787D+00	LF LW 5.887930D+02 1.234440D+04
VTF VTR 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -2.475294D-01	PSI GAMMA -2.09769D-02 0.0	XR LW LR LW 2.261286D+03 1.168215D+04
THEOF THEOR 1.612886D+01 1.812431D+01	A1CF A1CR 9.207565D-01 6.623985D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFF 7.542352D+02 6.481296D+01
THETAC 1.712659D+01	DELTAB -3.267176D+00	DELTA S 8.724062D-02	DELTAR 3.208823D-01	DELTAC 7.850069D+00
TF TR 1.235365D+04 1.189810D+04	HF HR 3.435403D+02 1.455363D+02	YF YR 2.734303D+02 2.289832D+02	MHF MHR 9.756474D+02 5.038679D+02	LHF LHR 1.321810D+03 1.174507D+03
QF QR 1.449852D+04 2.314532D+04	LFZ DFX 1.325963D+02 7.453118D+02	YFY MF 6.120329D+01 -8.143195D+02	LF NF 2.190746D+02 2.776220D+02	RHFF RHPR 7.288024D+02 1.163455D+03
XR 8.219768D+02	L/DE 3.334383D+00	SHPTOT 1.992257D+03	WFFF 1.993257D+03	NMLB 4.013531D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CTSR 1.109187D-01 1.070131D-01	CPSF CPSF 5.122284D-03 8.177177D-03	AMTF AMTR 7.732613D-01 7.738014D-01	LANDAF LANDAR -3.321600D-02 -5.707449D-02
MUF MUR 1.911073D-01 1.915557D-01	VF VR 1.323061D+01 1.237836D+01	DFFR DFRF 1.780613D+00 7.082849D-39	DFF 0F 9.382606D-01	A0F A0R 4.718040D+00 4.676494D+00
A1F AIR 1.584316D+00 8.181354D-01	B1F B1R 2.146665D+00 1.907346D+00	BETA0F BETA0R 2.915775D+00 3.622007D+00	B180F B180R 6.089191D+00 5.267502D+00	A270F A270R 1.006178D+01 1.062308D+01
CAPVF CAPVR 1.351152D+02 1.378903D+02	ALPHAF ALPHAR -4.323694D+00 -1.165593D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.739378D+00 -1.005559D+00	BPTPF BPTPR 2.668001D+00 2.075407D+00

CASE 9

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR	A90RA		
5.201583D-01	1.112116D-01	1.997137D+00		
5.209320D-01	1.052454D-01	2.283681D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.976489D+01	7.685673D+02	2.030727D+03	3.937538D-02	
1.870455D+01	1.182159D+03	2.031727D+03	9.568217D+02	

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.946675D-02	7.863215D-02	-1.338661D-02	3.96996D-01
-6.303156D-04	1.422382D+00	-3.962626D-03	-8.484605D-02
4.413993D-02	-8.419820D-03	-5.110867D-02	5.941624D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.882143D-02	-5.825417D-01	5.220759D-01	-4.807781D+00
3.402187D-03	-2.045097D+00	-5.050880D-03	4.579643D-01
-4.439332D-01	-5.346835D-01	-7.668392D-02	-5.975732D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-4.315887D-03	1.167121D-01	3.727826D-01	1.145967D-01
-5.737013D-04	-1.109026D+00	-9.014073D-03	-7.722526D-02
1.114274D-02	-3.307616D-01	-4.505125D-04	1.499911D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
5.095134D-04	-1.460986D+00	6.907171D-02	2.298036D-02
-7.772263D-02	-1.628326D-01	8.646073D-01	-1.046215D+01
3.187897D-03	-3.107601D-01	1.416222D-02	4.291191D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.578356D-04	-8.702888D-01	-1.435776D-02	-1.035125D-03
-1.306731D-02	6.334222D-02	4.067831D-01	-1.756283D+00
4.129140D-04	-8.268930D-02	-1.339002D-01	5.558187D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-6.543324D-05	-2.495983D-02	5.682699D-02	3.472305D-04
-2.094634D-03	-1.544498D-01	1.647747D-02	-2.819562D-01
-1.692587D-04	-9.486930D-02	1.641099D-01	-2.278371D-02

LONGITUDINAL

	<i>U</i>	<i>MU</i>	<i>W</i>	<i>ALPHA</i>	<i>Q</i>	THETAC
CTF	-0.626D-05-0.441D-02	0.100D-03	0.135D-01-0.134D-02	0.520D-01		
CTR	0.144D-04 0.102D-01	0.637D-04	0.858D-02 0.224D-02	0.343D-01		
CHF	0.288D-05 0.203D-02	0.519D-05	0.699D-03-0.382D-03	0.356D-02		
CHR	0.384D-05 0.271D-02	0.291D-05	0.270D-03-0.138D-03	0.223D-02		
AIF	0.501D-03 0.353D+00	0.694D-03	0.934D-01-0.992D-01	0.582D+00		
AIR	0.693D-03 0.488D+00	0.466D-03	0.627D-01-0.825D-01	0.480D+00		
VFR	-0.107D+00-0.752D+02	0.201D+00	0.271D+02-0.298D+01	0.104D+03		
VRR	-0.532D-01-0.375D+02	0.129D+00	0.173D+02 0.484D+01	0.618D+02		
LF		0.250D+02	0.337D+04			
DF		-0.638D+00-0.859D+02				
NF		0.142D+03 0.191D+05				

LATERAL-DIRECTIONAL

	<i>V</i>	<i>BETA</i>	<i>P</i>	<i>R</i>	AIC
CYF	-0.376D-05-0.506D-03	0.337D-03-0.131D-03	0.131D-03	0.661D-02	
CYR	0.392D-05 0.528D-03	0.244D-03-0.724D-05	0.724D-05	0.648D-02	
B1F	-0.373D-03-0.502D-01	0.864D-01-0.224D-01	0.224D-01	0.102D+01	
B1R	0.529D-03 0.712D-01	0.937D-01 0.249D-02	0.249D-02	0.103D+01	
YF	-0.441D+02-0.594D+04				
LF	-0.655D+02-0.881D+04				
NF	-0.213D+03-0.286D+05				
CTF		-0.563D-03			
CTR		-0.225D-03			

FORCE = 0.190004D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.133D+02	0.127D+02	0.0	0.0
Z	0.247D+02	0.363D+02	0.0	0.0
H	-0.630D+01	0.259D+01	0.0	0.0
Y	-0.455D+00	0.152D+00	0.0	0.0
L	-0.214D+00	-0.457D-01	0.0	0.0
N	-0.399D-01	0.155D+00	0.0	0.0
TF	-0.138D-01	-0.877D-05	0.0	0.0
TR	0.484D-02	-0.139D-01	0.0	0.0
HF	-0.718D-02	-0.628D-07	0.0	0.0
HR	0.127D-03	-0.680D-02	0.0	0.0
IR	-0.110D+01	0.107D-03	0.0	0.0
IF	0.298D+01	-0.112D+01	0.0	0.0
IR	0.276D+02	-0.429D-01	0.0	0.0
FR	0.105D+02	-0.267D+02	0.0	0.0
RR	0.980D+00	-0.194D-02	0.0	0.0
QF	0.175D+01	-0.536D+01	0.0	0.0
QR				
QFU	QFP	QFDLB	QFDelta	QRDelta
QFY	QFQ	QFDLS	QFBeta	QRBeta
QFW	QFR	QFDLR	QFAlpha	QRAlpha
	-0.143D-02	0.368D+00	0.736D+00	0.153D+
	-0.264D-03	0.123D+01	-0.915D-02	0.356D-
	-0.135D-01	-0.624D+00	-0.168D-01	-0.182D+
QRU	QRP	QRDLB	QRDelta	QRDeltA
QRV	QRQ	QRDLS	QRBeta	QRBeta
QRW	QRQ	QRDLR	QRAlpha	QRAlpha
	0.384D-02	-0.210D+00	-0.109D+01	0.191D+
	0.168D-03	0.875D+00	0.789D-02	0.226D-
	0.234D-01	0.103D+01	-0.115D-01	0.315D+

V FE	RC ALPHA 0. 3.821924D+00	GW ALFF 2.430000D+04 7.872147D-02	RHO THETA 1.871352D-03 3.888306D+00	XF LW LF LW 7.162766D+02 1.221471D+04
VTF VTR	CGF CGL 6.239495D+00 0.0	BETAF PHI 0. -2.784180D-01	PSI GAMMA -1.795635D-02 0.0	XR LW LR LW 1.850197D+03 1.183808D+04
THEOF THEOR	AICF AICR 6.770150D-01 4.297101D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 1.020724D+03 1.124065D+02
1.648116D+01 1.811330D+01				
THETAC	DELTAB -3.2802339D+00	DELTIAS 7.990457D-02	DELTAR 2.166356D-01	DELTAC 7.982349D+00
1.729723D+01				
TF TR	HF HR 4.957685D+02 3.039815D+02	YF YR 2.201213D+02 1.814971D+02	MHF MHR 1.456174D+03 9.850513D+02	LHF LHR 1.265107D+03 1.135818D+03
1.222564D+04 1.197794D+04				
QF QR	LFZ DFX 1.801936D+02 1.010962D+03	YFY MF 8.301411D+01 -1.102734D+03	LF NF 2.969922D+02 3.767269D+02	RHFF RHPR 7.940375D+02 1.148700D+03
1.579628D+04 2.285180D+04				
XR	L/DE 3.999328D+00	SHP101 2.042737D+03	WFF 2.043737D+03	NMLB 4.550487D-02
1.076813D+03				
SIGOF SIGOR	CTSF CTSFR 1.109974D-01 1.086326D-01	CPSF CPSR 5.580780D-03 8.073475D-03	AMTF AMTR 7.936067D-01 7.941416D-01	LAMDAF LAMDAR -3.808819D-02 -5.596739D-02
5.841923D-02 5.841923D-02				
MUF MUR	VF VR 1.131157D+01 1.085195D+01	DFFR DFRF 1.758982D+00 1.758824D-39	DFF DFF 9.253382D-01	AOF AOF 4.729045D+00 4.726753D+00
2.217032D-01 2.224537D-01				
A1F AIR	B1F B1R 2.054538D+00 1.844494D+00	BETA0F BETA0R 2.043338D+00 2.783285D+00	B180F B180R 6.802501D+00 6.016881D+00	A270F A270R 1.104877D+01 1.158482D+01
2.364996D+00 1.599591D+00				
CAPVF CAPVR	ALPHAF ALPHAR -5.678076D+00 -1.033677D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -3.313080D+00 -1.578485D+00	BPTPF BPTPR 3.132783D+00 2.441485D+00
1.570714D+02 1.594172D+02				

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	XFF	ZFF	MFF	TP
	YFF	NNF	NNF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.003014D-01	CTFP	A90F	A90RA	
5.003868D-01	CTR P	1.100432D-01	1.610603D+00	
5.003868D-01	1.066502D-01	1.831345D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS				
DELHPPF	RHPF	SHPTOT	HMLB	RP
DELHPR	RHPR	WFF		
3.066417D+01	8.247017D+02	2.103120D+03	4.419899D-02	
2.971867D+01	1.178419D+03	2.104120D+03	1.074036D+03	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.435079D-02	8.662851D-02	-5.610748D-03	3.855619D-01
-6.099186D-04	1.266612D+00	-2.436575D-03	-9.561267D-02
4.308540D-02	-2.927465D-02	-6.568262D-02	6.754197D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.452080D-02	-8.345868D-01	4.780231D-01	-5.120313D+00
3.208620D-03	-1.999974D+00	-8.297049D-03	5.029929D-01
-4.839297D-01	-4.724182D-01	8.741440D-02	-7.5866228D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.491434D-03	1.086934D-01	3.813694D-01	1.114033D-01
-3.948151D-04	-1.102783D+00	-7.099947D-03	-6.189241D-02
9.672471D-03	-3.335891D-01	4.817559D-03	1.5162886D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
7.572990D-04	-1.391790D+00	4.469496D-02	1.907344D-02
-8.691910D-02	-8.066070D-02	8.703413D-01	-1.362570D+01
2.317275D-03	-2.628286D-01	2.702547D-02	3.632631D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.396008D-04	-8.456736D-01	-2.861451D-02	-2.636984D-03
-1.371269D-02	8.471056D-02	4.101699D-01	-2.149643D+00
-4.456702D-04	-5.880907D-02	-1.218905D-01	-6.986461D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
2.398348D-05	-1.922782D-02	6.499981D-02	-1.779829D-03
-2.492884D-03	-1.758550D-01	1.585044D-02	-3.907920D-01
1.028445D-04	-9.674051D-02	1.617682D-01	1.612222D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.770D-05-0.	543D-02	0.103D-03	0.162D-01-0.	136D-02	0.542D-01
CTR	0.101D-04	0.711D-02	0.741D-04	0.116D-01	0.223D-02	0.376D-01
CHF	0.286D-05	0.202D-02	0.605D-05	0.948D-03-0.	341D-03	0.412D-02
CHR	0.407D-05	0.287D-02	0.342D-05	0.536D-03-0.	121D-03	0.264D-02
A1F	0.492D-03	0.347D+00	0.792D-03	0.124D+00-0.	1.82D+00	0.682D+00
AIR	0.668D-03	0.471D+00	0.593D-03	0.929D-01-0.	811D-01	0.576D+00
VFR	-0.838D-01-0.	591D+02	0.181D+00	0.284D+02-0.	247D+01	0.941D+02
VRR	-0.465D-01-0.	328D+02	0.130D+00	0.203D+02	413D+01	0.612D+02
LF			0.293D+02	0.459D+04		
DF			-0.730D+00-0.	1.14D+03		
MF			0.166D+03	0.260D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.374D-05-0.	586D-03-0.	302D-03-0.	119D-03	0.663D-02
CYR	0.392D-05	0.615D-03	0.251D-03-0.	147D-04	0.638D-02
B1F	-0.323D-03-0.	506D-01-0.	853D-01-0.	213D-01	0.103D+01
B1R	0.460D-03	0.722D-01	0.929D-01	0.127D-02	0.978D+00
YF	-0.511D+02-0.	801D+04			
LF	-0.772D+02-0.	121D+05			
NF	-0.256D+03-0.	402D+05			
CTF			-0.420D-03		
CTR			-0.485D-03		

FORCE = 0.190004D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.126D+02	0.124D+02	0.0	0.0
Z	0.396D+02	0.429D+02	0.0	0.0
H	-0.710D+01	0.329D+01	0.0	0.0
Y	-0.373D+00	-0.129D+01	0.0	0.0
L	-0.127D+00	-0.158D+00	0.0	0.0
N	-0.144D+00	0.274D+00	0.0	0.0
CTF	-0.166D-01	-0.134D-05	0.0	0.0
CTR	0.512D-02	-0.165D-01	0.0	0.0
CHF	-0.738D-02	-0.208D-06	0.0	0.0
CHR	0.194D-03	-0.701D-02	0.0	0.0
AIF	-0.113D+01	-0.362D-04	0.0	0.0
AIR	0.359D-01	-0.115D+01	0.0	0.0
VFR	-0.285D+02	0.164D-01	0.0	0.0
VRR	0.952D+01	-0.280D+02	0.0	0.0
QF	-0.212D+01	-0.351D-03	0.0	0.0
QR	0.192D+01	-0.855D+01	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFY	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.419D-02	0.204D+00	0.863D+00	0.181D+01	
0.168D-03	0.938D+00	-0.118D-01	0.263D-01	
0.335D-02	-0.700D+00	-0.170D-01	0.525D+00	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRFBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.225D-02	-0.153D+00	-0.120D+01	0.211D+01	
-0.463D-04	0.142D+01	0.165D-01	-0.726D-02	
0.254D-01	0.106D+01	0.385D-01	0.398D+01	

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	60 kt	-2089 ft/min 0 deg		
	80	-2108		X
	100	-2390		
	120	-2934		
	60	1533		
	80	1412		X
	100	1146		
	120	674		

CASE 7

PAGE 3

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LF LW
6.350000D+01	-2.089000D+03	2.430000D+04	2.378000D-03	-3.120581D+03
4.400000D+01	-2.119841D+01	1.561378D+01	2.324392D+00	1.083410D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-3.550740D-02	-2.477579D+03
7.050000D+02	0.0	-9.239785D-02	-1.894364D+01	1.189238D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
9.685257D+00	5.481304D-01	-2.500000D+00	-2.500000D+00	7.543292D+02
1.123737D+01	4.796181D-01	-2.500000D+00	-2.500000D+00	6.865105D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.046131D+01	-2.575990D+00	1.280588D-02	2.173720D-01	2.683189D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.124179D+04	8.590383D+02	1.061656D+02	2.554957D+03	7.650016D+02
1.210475D+04	1.020882D+03	1.078319D+02	2.811086D+03	7.924231D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
-3.097873D+03	9.128214D+02	4.062012D+01	-5.658088D+01	-1.557220D+02
5.345944D+02	4.550453D+02	4.376055D+03	2.435215D+01	2.687266D+01
XR	L'DE	SHPTOT	WFF	HMMLB
-7.079337D+03	3.505791D+00	-2.884932D+01	-2.784932D+01	-2.156632D+00
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	7.944961D-02	-8.612860D-04	7.247736D-01	1.340431D-02
5.841923D-02	8.6466715D-02	1.486306D-04	7.243611D-01	-1.069496D-03
MUF	VF	DFFR	DFFF	AOF
MUR	VR	DFRF		AOF
1.489645D-01	1.229513D+01	1.109084D+00	8.427225D-01	3.863651D+00
1.474773D-01	1.342345D+01	0.0		4.382913D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
6.152001D+00	1.242196D+00	-3.528352D-01	7.934473D+00	6.434118D+00
4.569074D+00	1.2866730D+00	-2.712994D-01	8.856597D+00	5.501451D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.072477D+02	1.169841D+01	3.600000D+02	1.585041D+01	4.333839D+00
1.047406D+02	6.947520D+00	3.600000D+02	1.876749D+01	4.746800D+00

CASE 7

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
5.368447D-01		CTFP	A90F	
		CTR _P	A90RA	
5.367477D-01	7.680980D-02		8.423885D-01	
	8.431267D-02		1.322395D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHFF	RHPF	SHPTOT	HMLB
DELHPR	RHPR	WFF	RP
9.740978D+00	-1.459810D+02	-8.415856D+00	-8.562734D+00
1.069249D+01	3.756515D+01	-7.415856D+00	-2.080744D+05

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
8.270000D+01	-2.108000D+03	2.430000D+04	2.378000D-03	-2.077651D+03
4.400000D+01	1.696304D+01	1.376610D+01	2.450384D+00	1.093954D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-5.332010D-02	-1.798255D+03
7.050000D+02	0.0	-1.771492D-01	-1.456841D+01	1.166963D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFF
9.926538D+00	2.088313D-01	-8.000000D-01	-8.000000D-01	1.202620D+03
1.095871D+01	1.465792D-01	-8.000000D-01	-8.000000D-01	1.119065D+03
THETAC	DELTAB	DELTA _S	DELTAR	DELTAC
1.044262D+01	-2.748175D+00	5.548291D-03	7.770720D-02	2.668699D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.111673D+04	6.391519D+02	5.342093D+01	1.829354D+03	7.090299D+02
1.178291D+04	7.596509D+02	5.204378D+01	2.064140D+03	7.527685D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
-2.482956D+03	1.421248D+03	7.380244D+01	-1.040832D+02	-1.2481117D+02
-4.486557D+02	8.238047D+02	6.595811D+03	2.334883D+02	-2.255275D+01
XR	L/DE	SHPTOT	WFF	NMLB
-4.864441D+03	5.194601D+00	-4.736446D+01	-4.636446D+01	-1.726345D+00
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LAMDAR
5.841923D-02	7.857963D-02	-6.903237D-04	7.541274D-01	1.262755D-02
5.841923D-02	8.417056D-02	-1.247375D-04	7.534763D-01	3.309844D-03
MUF	VF	DFFR	DFF	A0F
MUR	YR	DFRF		
1.964427D-01	9.239489D+00	1.294130D+00	8.391298D-01	3.797265D+00
1.951333D-01	9.875076D+00	6.824968D-38		4.188876D+00
AI F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
2.971572D+00	1.151297D+00	6.826273D-01	6.624473D+00	5.240653D+00
3.353366D+00	1.222329D+00	6.592127D-01	7.379275D+00	6.070346D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARN	ATIPR	BPTPR
1.396753D+02	7.463039D+00	3.600000D+02	1.043461D+01	3.186805D+00
1.381096D+02	5.071415D+00	3.600000D+02	1.331640D+01	3.569194D+00

CASE 11

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTR	CTFP	A90F		
5.059349D-01	CTR	A90RA		
5.061365D-01	7.755733D-02	4.656530E-01		
	8.273343D-02	7.481998E-01		

4

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WF	RP
1.877223D+01	-1.060395D+02	-8.567160D+00	-1.092880D+01
2.002507D+01	-2.527678D+00	-7.567160D+00	-2.655699D+05

4

STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.715973D-02	3.561211D-02	8.113234D-02	2.349915D-01
1.348019D-04	2.223555D+00	-7.092675D-03	1.801238D-02
3.870433D-02	-5.488226D-02	-4.480186D-02	5.171715D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-3.671525D-02	2.115908D+00	4.901640D-01	-6.364216D+00
-6.756849D-03	-1.393255D+00	1.050259D-02	-9.028577D-01
-5.934927D-01	-3.231276D-01	6.844095D-02	-7.930315D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-5.672445D-03	3.958039D-01	4.478109D-01	1.320014D-01
-1.250964D-03	-1.349201D+00	-6.725853D-03	-1.671552D-01
1.472945D-02	-2.007617D-01	-1.728860D-03	1.968165D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YV	YR	YDELR	YALPHA
8.022980D-04	-2.328416D+00	5.401849D-02	1.078441D-02
-1.004545D-01	-6.744943D-02	8.070688D-01	-1.342284D+01
6.788566D-04	-2.533087D-01	-4.512400D-02	9.070957D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.274336D-03	-1.067004D+00	4.289152D-02	1.472230D-02
-5.624165D-03	-4.182018D-02	3.899016D-01	-7.515071D-01
2.378243D-03	-8.949586D-02	-1.453693D-01	3.177834D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.017185D-03	-5.706355D-02	-1.390302D-02	-8.379950D-03
-3.052773D-03	-4.372447D-02	1.140653D-02	-4.079148D-01
-1.150937D-03	-3.206776D-02	1.538929D-01	-1.537895D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.712D-05-0.502D-02	0.102D-03	0.136D-01-0.143D-02	0.517D-01		
CTR	0.128D-04 0.906D-02	0.679D-04	0.908D-02 0.198D-02	0.376D-01		
CHF	0.759D-06 0.535D-03	0.799D-05	0.107D-02-0.683D-03	0.528D-02		
CHR	0.284D-05 0.200D-02	0.609D-05	0.813D-03-0.216D-03	0.460D-02		
AIF	0.230D-03 0.162D+00	0.665D-03	0.889D-01-0.810D-01	0.585D+00		
AIR	0.378D-03 0.266D+00	0.436D-03	0.583D-01-0.617D-01	0.497D+00		
VFR	-0.790D-01-0.557D+02	0.190D+00	0.254D+02-0.277D+01	0.104D+03		
VRR	-0.452D-01-0.319D+02	0.128D+00	0.171D+02 0.402D+01	0.763D+02		
LF	0.378D+02 0.505D+04					
DF	-0.225D+01-0.300D+03					
MF	0.227D+03 0.303D+05					

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.158D-05-0.211D-03-0.363D-03-0.724D-04	0.466D-02			
CYR	0.184D-05 0.245D-03	0.365D-03 0.685D-05	0.499D-02		
BIF	0.866D-04 0.116D-01-0.669D-01-0.122D-01	0.102D+01			
BIR	-0.890D-04-0.119D-01 0.676D-01 0.360D-03	0.102D+01			
YF	-0.676D+02-0.904D+04				
LF	-0.481D+01-0.663D+03				
NF	-0.346D+03-0.462D+05				
CTF		-0.434D-03			
CTR		-0.117D-03			

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.110D+02	0.140D+02	0.0	0.0
Z	0.344D+02	0.454D+02	0.0	0.0
H	-0.728D+01	0.347D+01	0.0	0.0
Y	-0.428D+00	0.312D+00	0.0	0.0
L	-0.951D+00	0.627D+00	0.0	0.0
N	0.706D+00	-0.571D+00	0.0	0.0
CTF	-0.139D-01	-0.518D-05	0.0	0.0
CTR	0.377D-02	-0.138D-01	0.0	0.0
CHF	-0.566D-02	-0.106D-05	0.0	0.0
CHR	0.326D-03	-0.610D-02	0.0	0.0
AIF	-0.110D+01	0.275D-03	0.0	0.0
AIR	0.221D-01	-0.110D+01	0.0	0.0
VFR	-0.281D+02	0.284D-01	0.0	0.0
VRR	0.759D+01	-0.279D+02	0.0	0.0
QF	0.187D+02	-0.846D-02	0.0	0.0
QR	-0.480D+01	0.172D+02	0.0	0.0
QFU	QFP	QFELB	QFDELTA	QFDELTA
QFY	QFQ	QFELS	QFBETA	QFBETA
QFW	QFR	QFELR	QFALPHA	QFALPHA
0.496D-02	-0.210D+00	-0.173D+00	-0.339D+00	0.109D+00
0.817D-03	0.494D+01	-0.908D-02	0.186D+02	-0.117D+02
-0.139D+00	-0.120D+00	-0.126D-01	-0.126D-01	-0.126D-01
GRU	GRP	QRDELB	QRDELTA	QRDELTA
QRV	QRQ	QRDELS	QRBETA	QRBETA
QRW	QRR	QRDELR	QRALPHA	QRALPHA
-0.216D-01	0.107D+01	0.259D+00	0.275D+00	0.275D+00
-0.464D-02	0.710D+00	0.342D-02	-0.620D+00	-0.620D+00
-0.878D-01	0.639D-01	-0.199D-01	-0.117D+02	-0.117D+02

CASE 8

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
1.028900D+02	-2.390000D+03	2.430000D+04	2.378000D-03	-1.536188D+03
4.400000D+01	1.613284D+01	1.411165D+01	2.961337D+00	1.078609D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-7.930136D-02	-1.487848D+03
7.050000D+02	0.0	-2.792169D-01	-1.3263318D+01	1.115693D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.007699D+01	-1.280312D-01	1.600000D+00	1.600000D+00	1.862071D+03
1.046946D+01	-1.701133D-01	1.600000D+00	1.600000D+00	1.829388D+03
THETAC	DELTAB	DELTA5	DELTAR	DELTAC
1.027322D+01	-2.638869D+00	1.401646D-02	-7.193644D-02	2.537383D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.089133D+04	2.800416D+02	9.298523D+00	6.545299D+02	6.589616D+02
1.125115D+04	3.202292D+02	5.052133D+00	7.628294D+02	6.599286D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
-2.117255D+03	2.274752D+03	1.146319D+02	-1.612954D+02	-1.064289D+02
-2.1522699D+03	1.280420D+03	1.063657D+04	3.081326D+02	-7.654208D+01
XR	L/DE	SHPTOT	WIFF	NMLB
-3.638185D+03	7.199252D+00	-8.297096D+01	-8.197096D+01	-1.220651D+00
SIGOF	CISF	CPSF	AMTF	LAMDAF
SIGOR	CISR	CPSR	AMTR	LAMDAR
5.841923D-02	7.720259D-02	-5.886497D-04	7.8412442D-01	1.812976D-02
5.841923D-02	7.970247D-02	-4.233482D-04	7.830992D-01	1.4686661D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
2.446254D-01	7.273099D+00	1.326109D+00	8.513968D-01	3.689847D+00
2.431518D-01	7.559155D+00	1.881177D-37		3.855735D+00
AIF	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
1.062792D+00	1.069988D+00	2.386888D+00	4.530497D+00	6.016795D+00
1.238668D+00	1.071559D+00	2.366904D+00	4.862913D+00	6.379010D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.736230D+02	6.632843D+00	1.876164D-17	7.695634D+00	1.508112D+00
1.72554D+02	5.965633D+00	1.887535D-17	1.037151D+01	1.637845D+00

CASE 8

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
4.745994D-01	7.666944D-02	9.161160D-02	
4.753478D-01	7.909858D-02	1.930058D-01	

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NON UNIFORM DOWNMASH POWER CORRECTIONS

DELHPT	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
3.551022D+01	-7.091865D+01	-1.072961D+01	-1.056568D+01
3.673112D+01	-3.981096D+01	-9.729613D+00	-2.567461D+05

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
1.235000D+02	-2.934000D+03	2.430000D+04	2.378000D-03	-1.300251D+03
1.60000D+01	1.6088675D+01	1.474436D+01	2.599121D+00	1.027721D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	0.0	-1.153914D-01	-1.234324D+03
7.050000D+02	0.0	-4.068891D-01	-1.355849D+01	1.061365D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
9.737579D+00	1-1.998798D-01	2.800000D+00	2.800000D+00	2.722173D+03
1.018764D+01	-3.074455D-01	4.000000D+00	4.000000D+00	2.799472D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
9.962612D+00	-3.028220D+00	4.378512D-02	-1.049367D-01	2.296598D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.035852D+04	1.127966D+02	1.349155D+01	7.286044D+01	7.647944D+02
1.068494D+04	-7.198216D+01	4.737252D+00	-5.411405D+02	7.344388D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
-2.497984D+03	3.444147D+03	1.645148D+02	-2.305087D+02	-1.255671D+02
-1.837859D+03	1.839869D+03	1.629781D+04	2.981749D+02	-9.238437D+01
XR	L/DE	SHPTOT	WFF	NMLB
-2.916640D+03	9.325986D+00	-1.179515D+02	-1.169515D+02	-1.026564D+00
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	7.316450D-02	-6.945018D-04	8.155390D-01	2.578309D-02
5.841923D-02	7.550636D-02	-5.109707D-04	8.146433D-01	2.751230D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
2.939111D-01	5.749045D+00	1.318677D+00	8.627515D-01	3.402243D+00
2.921510D-01	5.964300D+00	1.879905D-39		3.565096D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
1.183003D-01	1.241859D+00	2.922139D+00	3.193526D+00	6.252157D+00
-8.786598D-01	1.192561D+00	4.061620D+00	2.341410D+00	6.637482D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.085841D+02	6.586745D+00	3.126648D-18	6.705045D+00	1.247481D+00
2.075219D+02	7.019451D+00	3.145485D-18	8.208085D+00	1.481299D+00

CASE 9

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	XFF	ZFF	MFF	TP
LFF	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A9RA		
4.432874D-01	7.286169D-02	3.596154D+02		
4.446931D-01	7.524688D-02	3.597035D+02		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHP TOT	HMLB
	DELHPR	RHPR	WF	RP
5.521595D+01	-7.035116D+01	-5.712035D+00	-2.620948D+01	
5.702350D+01	-3.536087D+01	-4.712035D+00	-6.368904D+05	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE 6.186680D+01 4.400000D+01	RC ALPHA 1.533000D+03 -1.318534D+01	GW ALFF 2.430000D+04 -2.070489D+01	RHO THETA 2.378000D+03 1.070564D+00	XFLW LF LW 3.612608D+03 1.188990D+04
VTF VTR 7.050630D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -3.442162D-01	PSI GAMMA 7.770991D-02 1.416924D+01	XRLW LRLW 4.449865D+03 1.233353D+04
THEOF THEOR 1.734519D+01 1.839540D+01	A1CF A1CR 6.588544D-01 2.133223D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 7.920094D+02 -1.061868D+03
THETAC 1.787029D+01	DELTAB -2.183264D+00	DELTIAS 1.437603D-01	DELTAR 1.537755D-01	DELTAC 8.426583D+00
TF TR 1.236317D+04 1.303855D+04	HF HR 1.254110D+03 1.383324D+03	YF YR 2.007331D+02 1.2003337D+02	MHF MHR 3.514207D+03 3.733250D+03	LHF LHR 8.758694D+02 6.633808D+02
QF QR 2.424626D+04 2.891121D+04	LFZ DFX -1.214533D+03 5.289159D+02	YFY MF 7.1115906D+01 -6.187624D+03	LF NF 3.252171D+02 -6.331191D+02	RHPP RHPR 1.218796D+03 1.453291D+03
XR 6.811710D+03	L/DE 3.1117188D+00	SHPTOT 2.772087D+03	WFF 2.773087D+03	NMLB 2.160763D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 8.736000D-02 9.174014D-02	CPSF CPSR 6.741065D-03 8.038037D-03	AMTF AMTR 7.237020D-01 7.263335D-01	LAMDAF LAMDAR -7.549638D-02 -8.597623D-02
MUF MUR 1.365980D-01 1.389586D-01	VF VR 1.295139D+01 1.304955D+01	DFFR DFRF 8.913114D-01 1.157213D-03	DFF 1.123210D+00	AOF AOR 4.970633D+00 5.285728D+00
AI F AI R 5.715333D+00 6.072874D+00	B1F B1R 1.422256D+00 1.07165D+00	BETAOF BETAOR -8.376689D-01 -9.070656D-01	B180F B180R 1.057731D+01 1.123410D+01	A270F A270R 7.951878D+00 8.700784D+00
CAPVF CAPVR 1.043823D+02 1.089001D+02	ALPHAF ALPHAR -2.263502D+01 -2.589528D+01	BETAFW BETARM 1.110928D-16 1.092056D-16	ATIPF ATIPR 3.430300D+02 3.458875D+02	BPTPF BPTPR 5.889639D+00 6.167664D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.467038D-01		CTFP	A90F	
5.391680D-01		CTR _P	A90RA	
		8.429505D-02	2.715400D+00	
		8.744624D-02	2.947997D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
9.830266D+00	1.228626D+03	2.792114D+03	2.212584D-02	
1.019705D+01	1.463488D+03	2.793114D+03	5.376579D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE 8.120000D+01 4.400000D+01	RC ALPHA 1.612000D+03 -9.211861D+00	GW ALFFF 2.430000D+04 -1.359513D+01	RHO THETA 2.378000D-03 7.288720D-01	XF LW LF LW 2.942505D+03 1.22219D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -6.198791D-01	PSI GAMMA 6.567510D-02 9.880766D+00	XR LW LR LW 3.380625D+03 1.254479D+04
THEOF THEOR 1.758411D+01 1.839770D+01	AICF AICR 3.027865D-01 -5.300588D-02	B1TF B1TR -8.00000D-01 -8.00000D-01	B1CF B1CR -8.00000D-01 -8.00000D-01	DFW LFFW 1.127711D+03 -1.059128D+03
THETAC 1.799091D+01	DELTAB -2.577146D+00	DELTIAS 1.128276D-01	DELTAR 2.942696D-02	DELTAC 8.520082D+00
IF TR 1.252015D+04 1.293154D+04	HF HR 1.1349014D+03 1.255208D+03	YF YR 1.530359D+02 9.025526D+01	MHF MHR 3.129235D+03 3.364837D+03	LHF LHR 8.6844260D+02 7.244490D+02
QF QR 2.456694D+04 2.809369D+04	LFZ DFX -1.225999D+03 9.436160D+02	YFY MF 1.219453D+02 -7.579625D+03	LF NF 5.159861D+02 -4.614663D+02	RHPPF RHPR 1.234916D+03 1.412196D+03
XR 5.347564D+03	L/DE 4.286036D+00	SHPTOT 2.747112D+03	WFF 2.748112D+03	NMLB 2.910928D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS F CTSR 8.847291D-02 9.225903D-02	CPSF CPSR 6.830222D-03 7.810746D-03	AMTF AMIR 7.523675D-01 7.548626D-01	LAMDAF LANDAR 1.296380D-02 -8.493054D-02
MUF MUR 1.842456D-01 1.8667923D-01	VF VR 1.026233D+01 1.030813D+01	DFRF DFRF 1.090008D+00 1.595563D-36	DFF DFF 1.048455D+00	A0F A0R 4.997141D+00 5.257380D+00
A1F AIR 5.087480D+00 5.471646D+00	B1F B1R 1.410167D+00 1.176338D+00	BETAOF BETAOR -3.023146D-01 -4.809008D-01	B180F B180R 9.877323D+00 1.049636D+01	A270F A270R 9.159461D+00 9.853648D+00
CAPVF CAPVR 1.371419D+02 1.407081D+02	ALPHAF ALPHAR -1.871186D+01 -2.062612D+01	BETAFW BETARN 8.854228D-17 8.733508D-17	ATIPF ATIPR 3.463756D+02 3.492598D+02	BPTPF BPTPR 5.279301D+00 5.596667D+00

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	XFF	ZFF	MFF	TP
LFF	0.0	YFF	NFF	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
5.103632D-01	8.665087D-02	2.107184D+00		
5.0866880D-01	8.893796D-02	2.235503D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	SHTOT	NMLB
DELHPPF	RHPPR	WF	RP
2.019324D+01	1.255109D+03	2.788031D+03	2.911405D-02
2.072623D+01	1.432922D+03	2.789031D+03	7.074714D+02

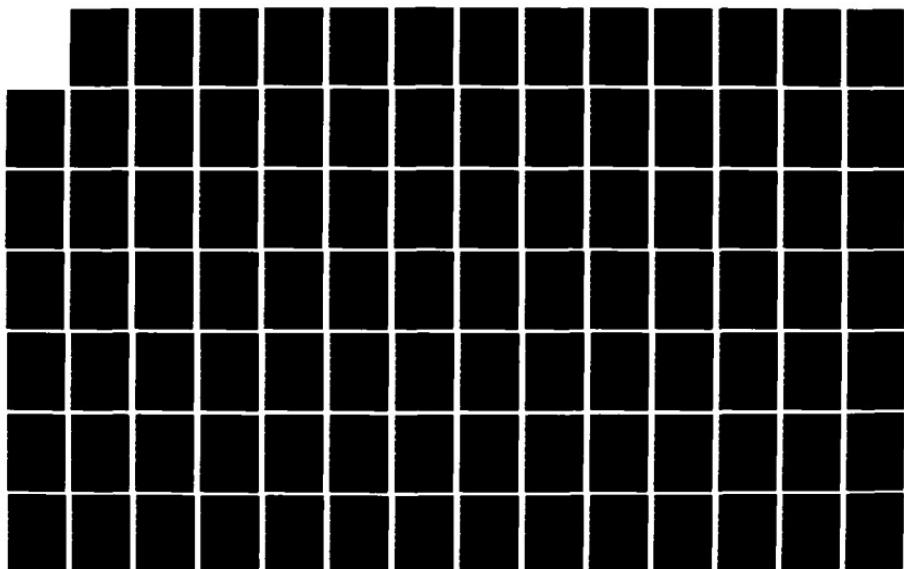
STABILITY DERIVATIVES OUTPUT

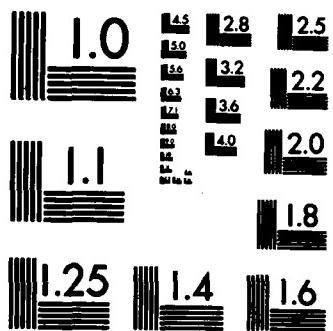
MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.837197D-02	1.268133D-01	7.1514428D-02	9.656338D-02
-1.169278D-03	8.118316D-01	-6.605309D-03	-1.583875D-01
1.707931D-02	-1.306982D-01	-3.657128D-02	2.313521D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-3.290183D-02	-1.519625D+00	3.779180D-01	-6.627487D+00
-1.719330D-03	-1.132677D+00	6.628650D-03	-2.328963D-01
-6.468944D-01	-4.919245D-01	7.288463D-02	-8.762674D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.600490D-03	9.702351D-03	4.373208D-01	1.111793D-01
-6.409080D-04	-1.218557D+00	-7.422492D-03	-8.681584D-02
8.407015D-03	-3.939320D-01	2.114327D-03	1.138794D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.562979D-03	-1.000662D+00	3.884329D-02	2.438196D-02
-1.090613D-01	-3.274998D-02	9.257494D-01	-1.477318D+01
3.098395D-03	-1.340272D-01	-3.409336D-02	4.197011D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.068624D-04	-6.529810D-01	-3.305480D-02	-7.198333D-03
-1.971309D-02	1.276929D-01	4.334857D-01	-2.670288D+00
7.876854D-04	9.788131D-03	-1.598255D-01	1.066979D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
7.959405D-05	-1.156734D-02	6.768283D-02	5.506597D-04
6.715512D-04	-2.287971D-01	1.3337565D-02	9.096669D-02
3.317612D-04	-9.572305D-02	1.756918D-01	4.493957D-02

AD-A134 323 HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E 2/6
VOLUME 4(U) BOEING VERTOL CO PHILADELPHIA PA 03 OCT 83
NADC-81118-60-VOL-4

UNCLASSIFIED

F/G 1/2 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.193D-05-0.	136D-02	0.987D-04	0.134D-01-0.	142D-02	0.518D-01
CTR	0.120D-04	0.845D-02	0.851D-04	0.115D-01	0.183D-02	0.416D-01
CHF	0.269D-05	0.190D-02	0.112D-04	0.152D-02	0.323D-03	0.667D-02
CHR	0.445D-05	0.314D-02	0.963D-05	0.130D-02	0.529D-04	0.583D-02
A1F	0.532D-03	0.375D+00	0.638D-03	0.864D-01-0.	634D-01	0.567D+00
AIR	0.649D-03	0.458D+00	0.555D-03	0.752D-01-0.	675D-01	0.520D+00
VFR	-0.729D-01-0.	514D+02	0.206D+00	0.279D+02-0.	310D+01	0.998D+02
VRR	-0.409D-01-0.	288D+02	0.176D+00	0.238D+02	0.390D+01	0.748D+02
LF			0.424D+02	0.574D+04		
DF			0.166D+01	0.225D+03		
NF			0.177D+03	0.240D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.306D-05-0.	414D-03-0.	145D-03-0.	733D-04	0.539D-02
CYR	0.337D-05	0.657D-03	0.168D-03-0.	314D-04	0.564D-02
B1F	0.956D-04	0.129D-01-	0.708D-01-0.	161D-01	0.104D+01
B1R	-0.104D-03-0.	141D-01	0.781D-01-0.	467D-02	0.104D+01
YF	-0.668D+02-0.	905D+04			
LF	-0.176D+03-0.	238D+05			
NF	0.801D+02	0.108D+05			
CTF			-0.298D-03		
CTR			-0.282D-03		

FORCE = 0.241446D+07

X	Z	H	Y	L	N	BICF	BICR	OMEGAF	OMEGAR
0.144D+02	0.360D+02	-0.686D+01	-0.105D+00	0.398D-02	-0.164D+00	0.172D+02	0.445D+02	0.0	0.0
0.266D-02	-0.677D-02	0.290D-03	-0.111D+01	0.148D-01	-0.397D+01	-0.135D-01	-0.965D-07	0.0	0.0
0.677D-02	-0.290D-03	-0.111D+01	0.148D-01	0.254D+02	-0.397D+01	-0.709D-02	-0.388D-04	0.0	0.0
-0.111D+01	-0.148D-01	-0.254D+02	0.581D+01	0.397D+01	-0.659D+01	-0.112D+01	-0.538D-02	0.0	0.0
0.148D-01	0.254D+02	0.581D+01	-0.397D+01	-0.659D+01	0.109D+01	-0.251D+02	-0.179D-02	0.0	0.0
0.254D+02	0.581D+01	-0.397D+01	-0.659D+01	0.109D+01	-0.659D+01	-0.179D-02	-0.179D-02	0.0	0.0
QF	QR	QFU	QFP	QFV	QFQ	QFR	QFDLB	QFDLAC	QFDLTAC
QFW	QFR	QFV	QFP	QFQ	QFR	QFDLR	QFDLS	QFBETA	QFBETAC
-0.848D-02	-0.430D-03	-0.184D-01	0.980D-01	0.309D+01	-0.764D+00	-0.925D+00	-0.279D-01	0.198D+01	0.198D+01
-0.430D-03	0.184D-01	-0.764D+00	-0.659D+01	-0.281D-01	-0.281D-01	-0.281D-01	-0.281D-01	-0.582D-01	-0.582D-01
0.184D-01	-0.764D+00	-0.659D+01	-0.281D-01	-0.281D-01	-0.249D+01	-0.249D+01	-0.249D+01	0.249D+01	0.249D+01
QRU	QRP	QRD	QRDELB	QRDELS	QRDELR	QRDELAC	QRBETA	QRALPHA	QRALPHAC
QRV	QRQ	QRQ	QRDELAC	QRDELS	QRDELR	QRDELTAC	QRBETAC	QRALPHAC	QRALPHAC
QRW	QRR	QRR	QRALPHAC						
-0.213D-02	0.731D-03	0.358D-01	0.346D+00	0.389D+01	0.101D+01	-0.118D+01	0.144D-01	0.218D+01	0.218D+01
0.731D-03	0.358D-01	0.101D+01	-0.118D+01	-0.144D-01	-0.243D-01	0.243D-01	0.990D-01	0.485D+01	0.485D+01

V FE	RC ALPHA	GW ALFFF	RHO THETA	XF LW LF LW
1.007000D+02 4.40000D+01	-1.146000D+03 -5.579804D+00	-2.430000D+04 -8.347479D+00	2.378000D-03 8.936604D-01	2.469772D+03 1.243693D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 6.239495D+00 9.0	BETAF PHI 0.0 -5.231510D-01	PSI GAMMA 5.035095D-02 6.448065D+00	XR LW LR LW 2.632005D+03 1.237467D+04
THEBF THEOR 1.790381D+01 1.831623D+01	AICF AICR -1.933439D-01 -3.842933D-01	B1TF B1TR 1.600000D+00 1.600000D+00	B1CF B1CR 1.600000D+00 1.600000D+00	DFW LFFW 1.592352D+03 -8.058100D+02
THETAC 1.811002D+01	DELIAB -2.654469D+00	DELTIAS 5.496854D-02	DELTAR -1.455307D-01	DELTAC 8.612418D+00
TF TR 1.265120D+04 1.261962D+04	HF HR 8.509189D+02 8.973038D+02	YF YR 7.047663D+01 3.598643D+01	MHF MHR 2.328978D+03 2.475734D+03	LHF LHR 7.747830D+02 7.155009D+02
QF QR 2.516895D+04 2.696151D+04	LFZ DFX -9.568195D+02 1.506456D+03	YFY MF 1.909945D+02 -7.660954D+03	LF MF 7.541429D+02 1.114892D+02	RHPF RHPR 1.265177D+03 1.355285D+03
XR 4.342553D+03	L'DE 5.454551D+00	SHPTOJ 2.720462D+03	WFF 2.721462D+03	NMLB 3.676810D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CISR 8.939800D-02 9.022262D-02	CPSF CPSR 6.997596D-03 7.495972D-03	AMIF AMIR 7.805535D-01 7.826314D-01	LAMDAF LAMDAR -7.475594D-02 -7.962576D-02
MUF MUR 2.329356D-01 2.354515D-01	VF VR 8.454998D+00 8.304228D+00	DFFR DFRF 1.276080D+00 1.141843D-36	DFF 9.905327D-01	AOF AOR 4.998470D+00 5.056407D+00
A1F AIR 3.784206D+00 4.023043D+00	B1F B1R 1.258081D+00 1.161806D+00	BETAOF BETAOR 8.418317D-01 6.204552D-01	B180F B180R 8.446357D+00 8.723467D+00	A270F A270R 1.046215D+01 1.078926D+01
CAPVF CAPVR 1.700763D+02 1.727474D+02	ALPHAF ALPHAR -1.507980D+01 -1.607458D+01	BETAFW BETARW 8.363634D-17 8.274262D-17	AIIPF AIIPR 3.487044D+02 3.514432D+02	BPTPF BPTPR 3.987855D+00 4.187442D+00

CASE 11

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	HFF	
0.8	0.0	0.0	0.0	0.0
0.8	0.0	0.0	0.0	0.0
RMTF	CTFP	A98F		
RMTR	CTR _P	A90RA		
4.796475D-01	8.817326D-02	1.558259D+00		
4.781014D-01	8.773193D-02	1.562412D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	SHPTOT	MALB
	RHPR	WFF	RP
3.886162D+01	1.304039D+03	2.797991D+03	3.597726D-02
3.866711D+01	1.393952D+03	2.793991D+03	3.742473D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 12

PAGE 3

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW LF LW
1.202000D+02	6.740000D+02	2.430000D+04	2.378000D-03	1.961770D+03
4.468000D+01	-3.084947D+06	-4.960852D+00	1.278115D-01	1.249492D+04
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.050000D+02	6.239495D+00	0.0	3.151093D-02	2.198072D+03
7.050000D+02	0.0	-5.941402D-01	3.172009D+00	1.216674D+04
THE0F THEOR	AICF AICR	B1TF B1TR	B1CF B1CR	DFW LFW
1.797950D+01	-3.883708D-01	2.800000D+00	2.800000D+00	2.197320D+03
1.843532D+01	-4.667647D-01	4.000000D+00	4.000000D+00	-4.931580D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.820741D+01	-3.032724D+00	1.965974D-02	-1.729691D-01	8.687912D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
1.262218D+04	8.076449D+02	4.203632D+01	2.225541D+03	9.083502D+02
1.2353112D+04	5.574260D+02	3.651832D+01	1.568430D+03	8.812390D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHFF RHFR
2.469344D+04	-6.106613D+02	2.504181D+02	9.475980D+02	1.241275D+03
2.649850D+04	2.167605D+03	-7.409577D+03	6.021806D+02	1.332010D+03
XR 3.575545D+03	L/DE 6.626729D+00	SHTOT 2.673285D+03	WFF 2.674285D+03	NMLB 4.487773D-02
SIGOF SIGOR	CTSF CTSR	CPSF CPSR	AMTF AMTR	LAMDAF LAMDAR
5.841923D-02	8.943363D-02	6.865393D-03	8.103203D-01	-7.283818D-02
5.841923D-02	8.747768D-02	7.367244D-03	8.108988D-01	-7.432006D-02
MUF MUR	VF VR	DFFR DFRF	DFF DFF	A0F A0R
2.810408D-01	7.120637D+00	1.398164D+00	9.523833D-01	4.941703D+00
2.835099D-01	6.894120D+00	5.629419D-11		4.856800D+00
A1F AIR	B1F BIR	BETAOF BETAOR	B180F B180R	A270F A270R
3.615910D+00	1.475010D+00	7.771619D-01	8.1790011D+00	1.166928D+01
2.547429D+00	1.430977D+00	1.745018D+00	6.918011D+00	1.172213D+01
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
2.030106D+02	-1.288405D+01	3.182461D-18	3.510319D+02	3.905184D+00
2.049883D+02	-1.282483D+01	3.154745D-18	3.524634D+02	2.921829D+00

CASE 12

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.489353D+01	8.858446D+02	9.964194D+01	
4.478409D+01	8.625772D+02	1.018473D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
6.292056D+01	1.304195D+03	2.797474D+03	4.295199D-02
6.126790D+01	1.393278D+03	2.798474D+03	1.043733D+03

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	50 kt	0 ft/min	-45 deg	
			-30	X
			-15	
			0	
			15	
			30	X
			45	
90			-30	
			-20	X
			-10	
			0	
			10	
			20	X
			30	
130			-10	X
			- 7	
			- 4	
			0	
			4	
			7	
			10	X

V FE	RC ALPHA 0.0	GW ALFF 2.430000D+04	RHO THETA 2.378000D-03	XF LW LF LW
5.000000D+01 4.400000D+01	-3.096109D+00	-1.773031D+01	3.485442D+00	1.795537D+03 1.318607D+04
VIF VIR	CGF CGL 0.0	BETAF PHI -4.500000D+01 -6.545933D+00	PSI GAMMA 4.493809D+01 0.0	XR LW LR LW 2.897439D+03 1.308427D+04
7.050000D+02 7.050000D+02	6.239495D+00 0.0	-2.500000D+00 -2.500000D+00	-2.500000D+00 -2.500000D+00	DFW LFFW 3.807249D+02 -2.527796D+03
THEOF THEOR	AICF AICR -1.144164D+00 2.724951D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.807249D+02 -2.527796D+03
1.593337D+01 1.712000D+01	-1.144164D+00 2.724951D+00	DELTAB -1.147600D+00	DELTAS -1.275141D+00	DELTAR 4.117922D-01 7.408285D+00
THETAC 1.655669D+01	-1.147600D+00	2.177658D+02	2.324160D+03 3.163006D+03	DELTAC 7.417278D+02 8.468202D+02
TF TR	HF HR 9.787351D+02 1.123545D+03	YF YR 1.861874D+02 2.177658D+02	MHF MHR 2.324160D+03 3.163006D+03	LHF LHR 7.417278D+02 8.468202D+02
QF QR	LFZ DFX -2.544670D+03 2.4366404D+02	YFY MF 2.797642D+03 -8.868727D+03	LF NF 1.556272D+03 -1.808424D+03	RHFF RHPR 9.491292D+02 1.188773D+03
XR 3.173895D+03	L/DE 2.131303D+00	SHPTOT 2.237902D+03	WFF 2.238902D+03	NMLB 2.233237D-02
SIGOF SIGOR	CISF CTSR 9.440893D-02 9.501522D-02	CPSF CPSR 5.249558D-03 6.575011D-03	AMIF AMTR 7.037152D-01 7.085778D-01	LAMDAF LAMDAR -4.913459D-02 -6.025398D-02
MUF MUR	VF VR 1.694327D+01 1.638058D+01	DFFR DFRF 9.217083D-01 2.842542D-01	DFF DFF 9.512831D-01	AOF AOF 5.220693D+00 5.365413D+00
A1F A1R	B1F B1R -1.858863D+00 4.627370D+00	BETAOF BETAOR 1.607776D+00 2.696740D+00	B180F B180R 8.632020D+00 7.915718D+00	A270F A270R 7.266495D+00 7.963121D+00
CAPVF CAPVR	ALPHAF ALPHAR -1.197193D+01 -1.729559D+01	BETAFW BETARW 3.163440D+02 3.145948D+02	ATIPF ATIPR 3.509048D+02 3.525352D+02	BPTPF BPTPR 3.963777D+00 5.323201D+00
8.529058D+01 8.776309D+01	-1.729559D+01			

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.549208D-01	9.348441D-02	2.904664D+00	
5.461610D-01	9.276273D-02	3.093309D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHTOT	NHLB
DELHPR	RHPR	WFF	RP
5.109162D+00	9.542383D+02	2.248081D+03	2.223130D-02
5.069721D+00	1.193843D+03	2.249081D+03	5.402206D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 5.400000D+01	RC ALPHA 5.601609D-01	GW ALFF 2.430000D+04	RHO THETA 2.378000D-03	XF LW LF LW 1.033874D+03
4.400000D+01	5.601609D-01	-1.123341D+01	2.736074D+00	1.227250D+04
VTF VTR 7.050000D+02	CGF CGL 6.239495D+00	BETAF PHI -3.000000D+01	PSI GAMMA 2.989551D+01	XR LW LR LW 2.954973D+03
7.050000D+02	0.0	-3.681043D+00	0.0	1.243559D+04
THEOF THEOR 1.484793D+01	A1CF A1CR -6.566523D-01	B1TF B1TR -2.500000D+00	B1CF B1CR -2.500000D+00	DFW LFFW 3.121890D+02
1.680149D+01	2.578808D+00	-2.500000D+00	-2.500000D+00	-8.219616D+02
THETAC 1.582474D+01	DELTAB -2.185844D+00	DELTAS -1.056125D+00	DELTAR 4.739513D-01	DELTAC 6.840882D+00
TF TR 1.227897D+04	HF HR 9.539165D+02	YF YR 3.394002D+02	MHF MHR 2.3232962D+02	LHF LHR 7.109581D+02
1.273111D+04	1.137809D+03	3.232962D+02	3.272316D+03	1.197452D+03
QF QR 1.460045D+04	LFZ DFX -8.188702D+02	YFY MF 1.749985D+03	LF NF 2.830417D+03	RHPP RHPR 7.339263D+02
2.223561D+04	3.202100D+02	-3.849095D+03	1.988829D+02	1.117726D+03
XR 1.263082D+03	1/DE 2.122650D+00	SHPTOT 1.951652D+03	WFFF 1.952652D+03	NMLB 2.560620D-02
SIGOF SIGOR 5.841923D-02	CISF CISR 8.675400D-02	CPSF CPSP 4.059288D-03	AMTF AMTR 7.058570D-01	LAMDAF LAMNDAR -4.195448D-02
5.841923D-02	8.994217D-02	6.182053D-03	7.099874D-01	-6.182781D-02
MUF MUR 1.186933D-01	VF VR 1.559327D+01	DFRF DFRF 1.247303D+00	DFFF DFFF 9.694680D-01	A0F A0R 4.682154D+00
1.192166D-01	1.559327D+01	1.467000D-01		5.072517D+00
AIF AIR 4.161446D+00	B1F B1R -1.094921D+00	BETAOF BETAOR 4.516314D-01	B180F B180R 8.768021D+00	A270F A270R 6.416161D+00
3.623749D+00	4.354359D+00	1.381299D+00	8.616386D+00	7.584472D+00
CAPVF CAPVR 8.478307D+01	ALPHAF ALPHAR -9.257621D+00	BETAFW BETARW 3.296970D+02	ATIPF ATIPR -4.778393D+00	BPTPF BPTPR 4.303078D+00
8.861414D+01	-1.867393D+01	3.298439D+02	-2.816090D+00	5.664980D+00

CASE 13

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.548346D-01	8.700754D-02	2.413141D+00	
5.469226D-01	8.816381D-02	2.893551D+00	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHFF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
4.755185D+00	7.386814D+02	1.961226D+03	2.548127D-02
4.818378D+00	1.122544D+03	1.962226D+03	6.191948D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.864717D-02	2.339195D-01	9.340583D-02	1.886098D-01
-5.516868D-03	1.238082D+00	3.032567D-02	-4.040581D-01
2.379059D-02	-1.304653D-01	-1.047888D-02	1.742434D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-9.416729D-02	-4.238154D+00	4.436131D-01	-5.582429D+00
1.137349D-02	-1.142075D+00	-5.578718D-01	8.329996D-01
-5.743746D-01	-4.524909D-01	1.825589D-01	-4.206747D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
9.298338D-04	-3.294874D-01	4.112504D-01	1.036123D-01
8.579800D-03	-1.239583D+00	1.514905D-02	6.283887D-01
3.235068D-03	-3.111117D-01	1.3333275D-01	2.369380D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.409534D-02	-1.505270D+00	7.856629D-02	1.0866696D-01
-9.482184D-02	-1.662943D-01	8.997859D-01	-6.944798D+00
-6.952111D-03	-2.023175D-01	-1.022511D-02	-5.091760D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.386639D-03	-8.561829D-01	-6.051972D-03	3.615447D-02
-8.457708D-03	6.260229D-02	4.233621D-01	-6.194466D-02
2.070333D-04	-4.708077D-02	-1.434888D-01	1.516322D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.004775D-03	3.089482D-03	4.711299D-02	-6.783518D-03
-4.289763D-04	-1.934018D-01	1.289437D-02	-3.141843D-02
1.904155D-03	-5.993747D-02	1.682222D-01	1.394612D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.980D-05	0.691D-02	0.865D-04	0.633D-02-0	141D-02	0.447D-01
CTR	0.121D-04	0.850D-02	0.831D-04	0.609D-02	183D-02	0.339D-01
CHF	0.335D-05	0.236D-02	0.811D-05	0.594D-03-0	381D-03	0.468D-02
CHR	0.417D-05	0.294D-02	0.865D-05	0.634D-03-0	217D-04	0.436D-02
AIF	0.629D-03	0.443D+00	0.396D-03	0.290D-01-0	872D-01	0.336D+00
AIR	0.887D-03	0.625D+00	0.398D-03	0.291D-01-0	405D-01	0.306D+00
VFR	-0.113D+00-0	0.797D+02	0.287D+00	0.210D+02-0	512D+01	0.131D+03
VRR	-0.886D-01-0	0.625D+02	0.278D+00	0.203D+02	638D+01	0.824D+02
LF		0.229D+02	0.168D+04			
DF		0.898D+00	0.657D+02			
MF		0.756D+02	0.554D+04			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.252D-05-0	0.184D-03-0	0.237D-03-0	0.726D-04	0.529D-02
CYR	0.264D-05	0.193D-03	0.239D-03-0	0.885D-05	0.536D-02
B1F	0.260D-03	0.191D-01-0	0.798D-01-0	0.155D-01	0.885D+00
B1R	-0.301D-03-0	0.221D-01	0.505D-01-0	0.149D-02	0.897D+00
YF	-0.592D+02-0	0.433D+04			
LF	-0.851D+01-0	0.624D+03			
NF	-0.375D+02-0	0.275D+04			
CTF				0.381D-02	
CTR				-0.518D-02	

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.149D+02	0.169D+02	0.0	0.0
Z	0.177D+02	0.228D+02	0.0	0.0
M	-0.424D+01	0.106D+01	0.0	0.0
Y	-0.351D+00	-0.421D-01	0.0	0.0
L	-0.199D+00	-0.785D-03	0.0	0.0
N	0.808D-01	0.209D-01	0.0	0.0
CTF	-0.667D-02	0.229D-03	0.0	0.0
CTR	0.189D-02	-0.679D-02	0.0	0.0
CHF	-0.582D-02	0.205D-04	0.0	0.0
CHR	0.190D-03	-0.614D-02	0.0	0.0
AIF	-0.904D+00	0.872D-05	0.0	0.0
AIR	-0.679D-02	-0.925D+00	0.0	0.0
VFR	-0.197D+02	0.811D+00	0.0	0.0
VRR	0.668D+01	-0.187D+02	0.0	0.0
QF	0.238D+01	-0.853D-01	0.0	0.0
QR	0.606D-01	-0.130D+00	0.0	0.0
QFU	QFP	QFDLB	QFDLTAC	
QFY	QFQ	QFDLS	QFBETA	
QFW	QFR	QFDLR	QFALPHA	
-0.806D-02	0.488D+00	0.558D+00	0.116D+01	
0.267D-02	0.337D+01	-0.518D-01	0.196D+00	
-0.315D-01	-0.313D+00	-0.771D-01	-0.231D+01	
QRU	QRP	QRDELB	QRDLTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.527D-02	-0.173D+00	-0.831D+00	0.165D+01	
0.245D-02	0.313D+01	0.776D-02	0.179D+00	
0.598D-02	0.570D+00	-0.182D-01	0.438D+00	

V	FE	RC	GU	RHO	XFLW
5.00000D+01	0.0	ALPHA	ALFFF	THETA	LF LW
4.40000D+01	1.825898D+00	2.430000D+04	2.378000D-03	6.432165D+02	1.193784D+04
VTF	CFF	BETAF	PSI	XRLW	
VTR	CGL	PHI	GAMMA	LRLW	
7.05000D+02	6.239495D+00	-1.500000D+01	1.492516D+01	3.174685D+03	1.216117D+04
7.05000D+02	0.0	-1.910494D+00	0.0		
THEOF	AICF	B1TF	B1CF	DFW	
THEOR	AICR	B1TR	B1CR	LF FW	
1.434259D+01	5.967332D-01	-2.500000D+00	-2.500000D+00	3.544425D+02	
1.682076D+01	2.326924D+00	-2.500000D+00	-2.500000D+00	-2.214202D+02	
THETAC	DELTAB	DELTA S	DEL TAR	DELTAC	
1.558168D+01	-2.831117D+00	-5.756956D-01	6.572902D-01	6.652462D+00	
TF	HF	YF	MHF	LHF	
TR	HR	YR	MHR	LHR	
1.191449D+04	9.851519D+02	2.750748D+02	2.760340D+03	1.141313D+03	
1.251413D+04	1.170145D+03	4.143487D+02	3.323826D+03	1.510686D+03	
QF	LFZ	YFY	LF	RHFF	
QR	DFX	MF	NF	RHPR	
1.276321D+04	-2.100144D+02	9.675732D+02	2.511925D+03	6.415731D+02	
2.233612D+04	3.613176D+02	-2.537318D+03	-1.699328D+03	1.122778D+03	
XR	L/DE	SHPTOT	WFF	NMLB	
5.778901D+02	2.101248D+00	1.864351D+03	1.865351D+03	2.680460D-02	
SIGOF	CTSF	CPSF	AMTF	LAMDAF	
SIGOR	CTSR	CPSR	AMTR	LAMDAR	
5.841923D-02	8.463554D-02	3.548490D-03	7.030932D-01	-3.844396D-02	
5.841923D-02	8.870253D-02	6.209997D-03	7.114059D-01	-6.473996D-02	
MUF	VF	DFFR	DFF	AOF	
MUR	VR	DFRF		AOR	
1.187623D-01	1.561350D+01	1.487004D+00	1.005344D+00	4.560717D+00	
1.193276D-01	1.506202D+01	3.950589D-02		5.013005D+00	
AIF	B1F	BETAOF	B180F	A270F	
AIR	B1R	BETAOR	B180R	A270R	
4.814581D+00	6.188430D-01	-3.656230D-01	9.283313D+00	6.145091D+00	
4.582186D+00	3.772937D+00	3.140493D-01	9.495966D+00	7.503593D+00	
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF	
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR	
8.452572D+01	-7.810902D+00	3.448780D+02	-2.859521D+00	4.854190D+00	
8.950940D+01	-1.997256D+01	3.449487D+02	-5.919165D-01	5.935611D+00	

CASE 14

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.538054D-01	6.463490D-02	2.262208D+00	
5.480135D-01	8.621829D-02	2.858749D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
4.625514D+00	6.461986D+02	1.873689D+03	2.667109D-02
4.712050D+00	1.127490D+03	1.874689D+03	6.481075D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
5.00000D+01	0.0	2.43000D+04	2.37800D-03	5.422084D+02
4.40000D+01	2.088518D+08	-8.734697D+00	2.154364D+00	1.194042D+04
VTF	CGF	BETIAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+08	0.0	-6.653765D-03	3.302641D+03
7.050000D+02	0.0	-1.866571D-01	0.0	1.218997D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.425643D+01	1.394956D+08	-2.500000D+00	-2.500000D+00	3.646236D+02
1.684146D+01	1.143976D+00	-2.500000D+00	-2.500000D+00	-2.673679D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.554895D+01	-3.008627D+08	8.650290D-02	5.051512D-01	6.627090D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.191060D+04	1.002568D+03	3.179772D+02	2.904405D+03	1.247332D+03
1.257206D+04	1.202592D+03	2.848747D+02	3.229324D+03	1.001316D+03
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.2466706D+04	-2.539021D+02	4.773760D+01	1.893768D+02	6.266862D+02
2.253619D+04	3.741252D+02	-1.977238D+03	1.624222D+01	1.132735D+03
XR	L/DE	SHPTOT	WFF	NMLB
4.204089D+02	2.078713D+00	1.859421D+03	1.860421D+03	2.687564D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.422047D-02	3.466152D-03	7.088144D-01	-3.762162D-02
5.841923D-02	8.869527D-02	6.265067D-03	7.111185D-01	-6.627926D-02
MUF	VF	DFRF	DFF	A0F
MUR	VR	DFFR		A0R
1.193432D-01	1.505664D+01	2.712641D-01	1.045697D+00	4.536928D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.721092D+00	2.025658D+00	-2.402630D-01	9.190053D+00	6.153231D+00
5.250654D+00	1.626009D+00	-3.628282D-01	1.030376D+01	7.519730D+00
CAPWF	ALPHAF	BETIAFW	ATIPF	BPIPF
CAPVR	ALPHAR	BETIARW	ATIPR	BPIPR
8.444700D+01	-7.611482D+00	3.600000D+02	-2.690390D+00	5.137314D+00
8.989793D+01	-2.062333D+01	3.600000D+02	3.391720D-01	5.496660D+00

CASE 15

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RNTR	CTR P	A90RA	
5.522741D-01	8.465322D-02	2.239836D+00	
5.5105579D-01	8.6442247D-02	3.094453D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SHPIOT	NMLB
DELHPR	RHPR	WFF	RP
4.626515D+00	6.313128D+02	1.868771D+03	2.674124D-02
4.723209D+00	1.137458D+03	1.869771D+03	6.498122D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 16

PAGE 3

V	RC	GM	RHO	XF LM
FE	ALPHA	ALFF	THETA	LF LM
5.080000D+01 4.400000D+01	0.0 2.012954D+00	-2.430000D+04 -8.753654D+00	2.378000D-03 2.429856D+00	5.795621D+02 1.196199D+04
VTF	CGF	BETAF	PSI	XR LM
VTR	CGL	PHI	GAMMA	LR LM
7.050000D+02 7.050000D+02	6.239495D+00 0.0	1.500000D+01 1.475974D+00	-1.493358D+01 0.0	3.215621D+03 1.215168D+04
THEDF	A1CF	B1IF	B1CF	DFW
THEDR	A1CR	B1TR	B1CR	LFFW
1.444484D+01 1.670693D+01	2.005945D+00 -6.207597D-01	-2.500000D+00 -2.500000D+00	-2.500000D+00 -2.500000D+00	3.380722D+02 -2.415942D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.557589D+01	-2.662035D+00	8.091741D-01	2.830573D-01	6.647973D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.193301D+04 1.252004D+04	1.014154D+03 1.118976D+03	3.325879D+02 9.845823D+01	3.013166D+03 3.023275D+03	1.317725D+03 5.726086D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.300844D+04 2.197066D+04	-2.295782D+02 3.463497D+02	-8.528824D+02 -2.496592D+03	-2.2311732D+03 1.553979D+03	6.539004D+02 1.104407D+03
XR	L/DE	SHPTOT	WFF	NMLB
5.230221D+02	2.098434D+00	1.8568308D+03	1.859308D+03	2.689173D-02
SIGOF	CISF	CPSF	AMTF	LAMDAF
SIGOR	CISR	CPSR	AMIR	LAMDAR
5.841923D-02 5.841923D-02	8.511558D-02 8.888093D-02	3.616671D-03 6.108391D-03	7.087705D-01 7.094125D-01	-3.810328D-02 -6.466590D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR	DFF	AOF
1.193599D-01	1.563576D+01 1.507345D+01	3.497779D+00 3.952526D-02	1.004137D+00	4.576013D+00 4.976974D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.170866D+00 4.987654D+00	3.343202D+00 -3.779252D-01	3.847907D-01 -6.175054D-02	8.685309D+00 9.883347D+00	6.316424D+00 7.323160D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
8.452407D+01 8.950909D+01	-7.631566D+00 -1.92929D+01	1.511419D+01 1.504555D+01	-3.316180D+00 6.078219D-04	5.345384D+00 5.001952D+00

CASE 16

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RHIF	CTFP	A90F		
RHTR	CTR P	A90RA		
5.501111D-01	8.480617D-02	2.250450D+00		
5.534614D-01	8.615099D-02	2.870985D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELIHPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
4.634874D+00	6.585352D+02	1.867651D+03	2.675727D-02	
4.788372D+00	1.109116D+03	1.868651D+03	6.502016D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
5.00000D+01	0.0	2.43000D+04	2.37800D-03	8.723052D+02
4.40000E+01	9.656640D-01	-1.073444D+01	2.941944D+00	1.224322D+04
VIF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+00	3.00000D+01	-2.988229D+01	2.965136D+03
7.05000D+02	0.0	3.352014D+00	0.0	1.229698D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFF
1.499749D+01	2.527521D+00	-2.50000D+00	-2.50000D+00	2.388496D+02
1.659644D+01	-1.389544D+00	-2.50000D+00	-2.50000D+00	-6.503062D+02
THETAC	DELTAB	DEL TAS	DELTAR	DELTAC
1.579697D+01	-1.908413D+00	1.305279D+00	1.434802D-01	6.819356D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.223077D+04	1.032208D+03	3.182625D+02	3.064966D+03	1.201961D+03
1.260626D+04	1.043979D+03	1.435343D+01	2.728788D+03	2.559226D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.154085D+04	-6.4635570D+02	-1.712885D+03	-2.860159D+03	7.543782D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.081326D+03	2.106549D+00	1.937180D+03	1.938180D+03	2.579740D-02
SIGOF	CTSF	CP5F	AMTF	LAMDAF
SIGOR	CTSR	CP5R	AMTR	LANDAR
5.841923D-02	8.737772D-02	4.172406D-03	7.081572D-01	-4.117671D-02
5.841923D-02	8.915790D-02	5.988892D-03	7.060299D-01	-6.123140D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.192855D-01	1.536512D+01	1.470413D-01	9.652128D-01	4.744666D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
3.319196D+00	4.197689D+00	1.374234D+00	8.018278D+00	6.705888D+00
4.044250D+00	-1.867156D+00	8.578153D-01	8.948157D+00	7.235004D+00
CAPVF	ALPHAF	BETAFW	AIIPF	BPIPF
CAPVR	ALPHAR	BETARI	ATIPR	BPTPR
8.476708D+01	-8.899335D+00	3.027347D+01	-5.215140D+00	5.351416D+00
8.857131D+01	-1.829089D+01	3.013451D+01	-1.990086D+00	4.454462D+00

CASE 14

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMIF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.481016D-01		CTFP	A90F	
5.5446601D-01		CTR _P	A90RA	
	8.679994D-02		2.437771D+00	
	8.718111D-02		2.898962D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELIHPF	RHPF	SHPTOT	NMLB
DELIHPR	RHPR	WFF	RP
4.743839D+00	7.591220D+02	1.946689D+03	2.567146D-02
4.764671D+00	1.087567D+03	1.947689D+03	6.238164D+02

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.460928D-02	1.559094D-01	5.023740D-02	2.002887D-01
8.483264D-04	1.340377D+00	-3.551326D-02	6.212901D-02
2.038639D-02	-7.409837D-02	-5.332326D-02	1.493041D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.004101D-01	-3.638819D+00	4.653311D-01	-5.579474D+00
-6.454795D-03	-9.669794D-01	5.494127D-01	-4.727308D-01
-5.681753D-01	-4.584515D-01	-1.352938D-01	-4.161154D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
7.757986D-04	-3.439434D-01	4.161407D-01	9.875593D-02
-1.021422D-02	-1.114386D+00	-2.099741D-02	-7.480602D-01
-4.054485D-03	-3.473883D-01	-1.307838D-01	2.969389D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YV	YR	YDELR	YALPHA
-1.626931D-02	-1.521054D+00	5.622525D-02	-7.015784D-02
-8.362267D-02	-2.670702D-02	8.915690D-01	-6.124287D+00
1.679163D-02	-1.796384D-01	-3.471675D-02	1.229772D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-3.156699D-03	-8.553507D-01	-8.963554D-03	-4.603486D-02
-7.095573D-03	1.163189D-01	4.193103D-01	-5.196596D-01
5.797384D-03	-2.357258D-02	-1.582495D-01	4.245839D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.613818D-04	-2.214012D-04	4.128369D-02	5.666208D-03
-8.239754D-04	-1.947705D-01	1.359983D-02	-6.034561D-02
-2.980660D-03	-7.742819D-02	1.708172D-01	-2.182511D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.977D-05	0.689D-02	0.860D-04	0.630D-02	0.125D-02	0.445D-01
CTR	0.119D-04	0.839D-02	0.825D-04	0.606D-02	0.162D-02	0.339D-01
CHF	0.342D-05	0.241D-02	0.868D-05	0.536D-03	0.370D-03	0.512D-02
CHR	0.399D-05	0.281D-02	0.788D-05	0.577D-03	0.628D-04	0.390D-02
CF	0.795D-03	0.561D+00	0.435D-03	0.318D-01	0.493D-01	0.339D+00
AIR	0.788D-03	0.550D+00	0.371D-03	0.272D-01	0.799D-01	0.303D+00
VFR	-0.113D+00	0.797D+02	0.286D+00	0.209D+02	0.452D+01	0.131D+03
VRR	-0.886D-01	0.625D+02	0.275D+00	0.202D+02	0.574D+01	0.829D+02
LF			0.207D+02	0.151D+04		
DF			0.361D+01	0.265D+03		
NF			0.165D+03	0.121D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.259D-05	0.190D-03	0.239D-03	0.841D-04	0.517D-02	
CYR	0.305D-05	0.223D-03	0.229D-03	0.287D-04	0.542D-02	
BIF	0.252D-03	0.184D-01	0.436D-01	0.112D-01	0.892D+00	
BIR	-0.112D-03	0.822D-02	0.887D-01	0.314D-02	0.894D+00	
YF	-0.495D+02	0.363D+04				
LF	0.301D+02	0.221D+04				
NF	-0.913D+02	0.669D+04				
CTF			-0.408D-02			
CTR			0.503D-02			

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.152D+02	0.165D+02	0.0	0.0
Z	0.173D+02	0.235D+02	0.0	0.0
H	-0.420D+01	0.117D+01	0.0	0.0
Y	0.385D-01	0.622D-01	0.0	0.0
L	-0.615D-01	0.356D-01	0.0	0.0
N	0.474D-01	-0.825D-02	0.0	0.0
CTF	-0.651D-02	0.236D-03	0.0	0.0
CTR	0.189D-02	-0.700D-02	0.0	0.0
CHF	-0.586D-02	0.204D-04	0.0	0.0
CHR	0.175D-03	-0.605D-02	0.0	0.0
AIF	-0.917D+00	0.408D-03	0.0	0.0
AIR	0.656D-02	-0.914D+00	0.0	0.0
VFR	-0.193D+02	0.978D+00	0.0	0.0
VRR	0.665D+01	-0.193D+02	0.0	0.0
QF	0.251D+01	-0.744D-01	0.0	0.0
QR	0.416D-01	-0.295D+00	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.811D-02	0.243D+00	0.569D+00	0.118D+01	
-0.203D-02	0.334D+01	0.306D-01	-0.148D+00	
-0.306D-01	-0.402D+00	0.455D-01	-0.224D+01	
GRU	QRP	QRDELB	QRDELTAC	
GRV	QRQ	QRDELS	QRBETA	
GRW	QRR	QRDELR	QRALPHA	
-0.534D-02	-0.189D+00	-0.809D+00	0.162D+01	
-0.210D-02	0.307D+01	0.129D-01	-0.154D+00	
0.516D-02	0.696D+00	-0.198D-01	0.378D+00	

V FE 5.00000D+01 4.40000D+01	RC ALPHA 0. -2.468127D+00	GW ALFFF 2.430000D+04 -1.688200D+01	RHO THETA 2.378000D-03 3.769145D+00	XF LW LF LW 1.573428D+03 1.3310926D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 4.00000D+01 6.207152D+00	PSI GAMMA -4.490376D+01 0.0	XR LW LR LW 2.885723D+03 1.280153D+04
THEOF THEOR 1.602843D+01 1.688935D+01	AICF AICR 2.260232D+00 -2.511075D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 2.244051D+02 -2.151247D+03
THETAC 1.665889D+01	DELTAB -9.396852D-01	DELTIAS 1.577914D+00	DELIJAR -1.671265D-01	DELTAC 7.332475D+00
TF TR 1.315975D+04 1.308619D+04	HF HR 1.072125D+03 9.788174D+02	YF YR 1.242349D+02 -1.145807D+02	MHF MHR 3.061725D+03 2.380855D+03	LHF LHR 5.485582D+02 -1.403591D+02
QF QR 1.889144D+04 2.282382D+04	LFZ DFX -2.158916D+03 1.315565D+02	YFY MF -2.854847D+03 -1.115618D+04	LF NF -2.340732D+03 3.583471D+03	RHPF RHPR 9.496234D+02 1.147293D+03
XR 2.867265D+03	L'DE 2.123909D+00	SHPTOT 2.196917D+03	WFF 2.197917D+03	NMLB 2.274881D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CTSR 9.403408D-02 9.287125D-02	CPSF CPSPR 5.252292D-03 6.345590D-03	AMTF AMTR 7.078142D-01 7.022013D-01	LAMDAF LAMDAR -4.799832D-02 -5.917098D-02
MUF MUR 1.184871D-01 1.189691D-01	VF VR 1.683685D+01 1.609750D+01	DFFR DFFR 9.375154D-01 2.858871D-01	DFF 9.437359D-01	AOF AOR 5.211794D+00
AI F AIR 2.845935D+00 2.555811D+00	B1F B1R 4.179588D+00 -2.913079D+00	BETAOF BETAOR 2.284166D+00 2.540883D+00	B180F B180R 7.981500D+00 7.676564D+00	A270F A270R 7.477465D+00 7.498355D+00
CAPVF CAPVR 8.524522D+01 8.769663D+01	ALPHAF ALPHAR -1.150174D+01 -1.698092D+01	BETAFW BETARW 4.560295D+01 4.536635D+01	ATIPF ATIPR 3.508778D+02 3.530877D+02	BPTPF BPTPR 5.056511D+00 3.875332D+00

CASE 17

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTB	CTRPF	A90RA	
5.474326D-01	9.293988D-02	2.823920D+00	
5.551454D-01	9.075816D-02	3.086604D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELPF	RHPF	SHPOT	HMLB
DELHPR	RHPR	NFF	RP
5.079402D+00	9.567028D+02	2.206956D+03	2.264537D-02
4.960166D+00	1.152254D+03	2.207956D+03	5.502826D+02
STABILITY NOT CALCULATED FOR THIS CASE. SKIPPING TO NEXT CASE			

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V FE 9.00000D+01 4.40000D+01	RC ALPHA 0.0 -6.020024D+00	GW ALFF 2.430000D+04 -9.714123D+00	RHO THETA 2.378000D-03 7.076356D-01	XF LW LF LW 2.042148D+03 1.290260D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI -3.00000D+01 -1.154210D+01	PSI GAMMA 3.40145D+01 0.0	XR LW LR LW 2.153009D+03 1.306484D+04
THE0F THE0R 1.733622D+01 1.774660D+01	A1CF A1CR -4.265660D+00 3.689707D+00	B1TF B1TR -1.000000D+00 -1.000000D+00	B1CF B1CR -1.000000D+00 -1.000000D+00	DFW LFFW 1.286920D+03 -2.330884D+03
THE1AC 1.754141D+01	DELTAB -2.230337D+00	DELTAS -2.657485D+00	DELTAR 2.007948D-02	DELTAC 8.171636D+00
TF TR 1.301499D+04 1.317512D+04	HF HR 1.121348D+03 1.319771D+03	YF YR -3.502167D+02 3.712374D+02	MHF MHR 2.686358D+03 3.797895D+03	LHF LHR -5.071845D+02 1.5346622D+03
QF QR 2.328724D+04 2.494692D+04	LFZ DFX -2.452997D+03 1.035369D+03	YFY MF 5.580846D+03 -1.177777D+04	LF NF 8.908728D+03 2.217573D+03	RHPP RHPR 1.170589D+03 1.254016D+03
XR 4.084430D+03	1/DE 4.811522D+00	SHPTOT 2.524605D+03	WFF 2.525605D+03	NMLB 3.563503D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 9.218550D-02 9.384822D-02	CPSF CPSR 6.474434D-03 6.9358865D-03	AMTF AMIR 7.599069D-01 7.687881D-01	LAMDAF LAMDAR -6.571791D-02 -7.067161D-02
MUF MUR 2.097263D-01 2.114542D-01	VF VR 9.690458D+00 9.660340D+00	DFFR DFRF 1.079885D+00 1.415431D-01	DIFF 8.905807D-01	A0F A0R 5.148788D+00 5.300019D+00
A1F AIR 3.328980D+00 4.057392D+00	B1F B1R -2.942368D+00 5.284264D+00	BETA0F BETAOI 1.517475D+00 9.488404D-01	B180F B180R 8.207374D+00 9.072304D+00	A270F A270R 9.696312D+00 1.041766D+01
CAPVF CAPVR 1.523279D+02 1.543906D+02	ALPHAF ALPHAR -1.391818D+01 -1.507822D+01	BETAFW BETARW 3.292095D+02 3.294884D+02	ATIPF ATIPR 3.478090D+02 3.510374D+02	BPTPF BPTPR 4.442931D+00 6.662273D+00

CASE 18

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.8	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
4.978091D-01		CTFP	A90F	
4.861439D-01		CTR P	A90RA	
		9.147472D-02	1.856135D+00	
		9.262497D-02	1.816339D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHTOT	NMLB
	DELHPR	RHPR	MFF	RP
2.930317D+01	1.199892D+03	2.583580D+03	3.482191D-02	
2.967164D+01	1.283688D+03	2.584580D+03	8.461724D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
9.00000D+01	0.0	2.43000D+04	2.37800D-03	1.377976D+03
4.40000D+01	-1.67984D+00	-4.892692D+00	9.921472D-01	1.210123D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+00	-2.00000D+01	2.00 3565D+01	1.704148D+03
7.05000D+02	0.0	-7.365766D+00	0.0	1.223551D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.591112D+01	-2.830026D+00	-2.00000D-01	-2.00 0000D-01	1.182606D+03
1.659941D+01	2.844495D+00	-2.00000D-01	-2.00 0000D-01	-3.416585D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.625527D+01	-2.604295D+00	-1.897525D+00	1.163658D-01	7.174626D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.214621D+04	8.989261D+02	-2.136824D+02	2.296099D+03	-1.319600D+02
1.230997D+04	1.037483D+03	3.720696D+02	3.104548D+03	1.656947D+03
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
1.742822D+04	-3.761822D+02	3.705912D+03	7.508351D+03	8.760711D+02
1.973299D+04	1.172082D+03	-7.102329D+03	4.143240D+02	9.919259D+02
XR	L/DE	SHPTOT	WF	NMLB
2.305348D+03	5.046227D+00	1.967997D+03	1.968997D+03	4.570855D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTS R	CP SR	AMIR	LA MDAR
5.841923D-02	8.664491D-02	4.845480D-03	7.63845D-01	-5.305666D-02
5.841923D-02	8.743069D-02	5.486264D-03	7.691357D-01	-6.113978D-02
MUF	VF	DFFR	DF	AOF
MUR	VR	DFFR		AOR
2.120001D-01	9.085634D+00	1.373655D+00	8.853230D-01	4.716824D+00
2.134300D-01	9.065304D+00	6.869487D-02		4.7886154D+00
AIF	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
3.423418D+00	-1.498097D+00	1.012368D+00	7.889558D+00	8.745470D+00
3.807120D+00	4.268905D+00	7.403850D-01	8.332710D+00	9.379512D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BRTPF
CAPVR	ALPHAR	BETARW	ATIPR	BRTPR
1.521193D+02	-1.072900D+01	3.396526D+02	3.522434D+02	3.736855D+00
1.542701D+02	-1.274658D+01	3.397949D+02	3.551271D+02	5.719940D+00

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	4.958204D+01	8.579329D-02	1.495091D+00	
	4.878794D+01	8.674531D-02	1.465082D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WIFF	RP
2.748317D+01	9.035543D+02	2.023268D+03	4.646051D-02	
2.778814D+01	1.019714D+03	2.024268D+03	1.080390D+03	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.958618D-02	1.789963D-01	9.673220D-02	1.723038D-01
8.242798D-04	1.110181D+00	3.864300D-02	1.177419D-01
2.031429D-02	-1.593866D-01	-2.767816D-03	2.901737D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.398595D-02	-2.291610D+00	4.521375D-01	-6.732321D+00
-2.812763D-02	-1.472836D+00	-7.870662D-01	-4.017811D+00
-6.378687D-01	-4.892483D-01	2.574058D-01	-9.111168D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.026000D-03	1.922045D-02	4.560125D-01	1.307312D-01
-3.025702D-03	-1.389345D+00	1.805366D-02	4.321979D-01
9.834713D-03	-3.064405D-01	1.802965D-01	1.404812D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.053334D-02	-1.331381D+00	4.727613D-02	2.521696D-02
-1.105933D-01	-1.236841D-01	8.746353D-01	-1.579738D+01
-3.999851D-02	-1.633419D-01	1.345217D-03	-5.713473D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.628028D-03	-7.554692D-01	-5.771326D-03	1.595075D-02
-9.402956D-03	-3.017575D-02	4.150568D-01	-1.343139D+00
-1.159749D-02	-3.369414D-02	-1.315554D-01	-1.656610D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-4.644975D-04	-1.733303D-02	4.031289D-02	-8.315498D-03
-3.688935D-03	-1.613561D-01	1.328251D-02	-5.269355D-01
3.921270D-03	-5.724137D-02	1.621270D-01	5.601227D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.501D-05-0.353D-02	0.102D-03	0.146D-01-0.159D-02	0.535D-01		
CTR	0.723D-05 0.510D-02	0.855D-04	0.122D-01	0.211D-02	0.404D-01	
CHF	0.206D-05 0.146D-02	0.101D-04	0.144D-02-0.374D-03	0.611D-02		
CHR	0.345D-05 0.244D-02	0.929D-05	0.133D-02	0.172D-04	0.554D-02	
AIF	0.522D-03 0.368D+00	0.752D-03	0.107D+00-0.	0.935D-01	0.652D+00	
AIR	0.630D-03 0.444D+00	0.635D-03	0.907D-01-0.	0.443D-01	0.574D+00	
VFR	-0.637D-01-0.449D+02	0.188D+00	0.268D+02-0.	0.303D+01	0.954D+02	
VRR	-0.392D-01-0.276D+02	0.156D+00	0.225D+02	0.394D+01	0.689D+02	
LF		0.261D+02	0.372D+04			
DF		0.441D+01	0.630D+03			
MF		0.245D+03	0.350D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.263D-05-0.375D-03-0.203D-03-0.	0.525D-04	0.516D-02		
CYR	0.270D-05 0.386D-03	0.219D-03-0.597D-06	0.514D-02		
BIF	-0.145D-03-0.207D-01-0.	0.767D-01-0.161D-01	0.979D+00		
BIR	0.109D-04 0.156D-02	0.585D-01-0.116D-02	0.953D+00		
YF	-0.707D+02-0.101D+05				
LF	-0.230D+02-0.329D+04				
NF	-0.379D+03-0.541D+05				
CTF			0.515D-02		
CTR			-0.707D-02		

FORCE = 0.241446D+07

DICF	DICR	OMEGAF	OMEGAR
0.130D+02	0.155D+02	0.0	0.0
0.379D+02	0.482D+02	0.0	0.0
-0.757D+01	0.362D+01	0.0	0.0
0.197D+00	0.301D+00	0.0	0.0
-0.262D+00	0.218D+00	0.0	0.0
0.219D+00	-0.108D-01	0.0	0.0
CTF	-0.147D-01	0.349D-05	0.0
CTR	0.352D-02	-0.145D-01	0.0
CHF	-0.654D-02	-0.435D-08	0.0
CHR	0.372D-03	-0.669D-02	0.0
AIF	-0.106D+01	-0.889D-04	0.0
AIR	0.232D-01	-0.107D+01	0.0
VFR	-0.261D+02	-0.315D-03	0.0
VRR	0.669D+01	-0.254D+02	0.0
QF	0.203D+01	0.443D-02	0.0
QR	-0.270D+00	-0.499D+00	0.0
QFU	QFP	QFDELB	QFDLTAC
QFY	QFQ	QFDELS	QFBETA
QFW	QFR	QFDELR	QFALPHA
-0.629D-02	-0.453D+00	0.621D+00	0.136D+01
0.240D-02	0.353D+01	-0.547D-01	0.343D+00
-0.235D-01	-0.636D+00	-0.811D-01	-0.336D+01
GRU	QRP	QRDELB	QRDELTAC
GRV	QRQ	QRDELS	QRBETA
GRW	QRR	QRDELR	QRALPHA
-0.899D-02	-0.196D+00	-0.764D+00	0.157D+01
0.353D-02	0.311D+01	0.657D-03	0.504D+00
-0.536D-02	0.507D+00	-0.284D-02	-0.766D+00

V	FE	RC	GW	RHO	XFLW
	ALPHA	ALFF	THETA	LF LW	
9.000000D+01	0.0	2.430000D+04	2.378000D-03	1.064096D+03	
4.400000D+01	5.592088D-01	-2.566179D+00	1.239529D+00	1.199295D+04	
VTF	CGF	BETAF	PSI	XRLW	
VTR	CGL	PHI	GAMMA	LR LW	
7.050000D+02	6.239495D+00	-1.000000D+01	9.943074D+00	1.550584D+03	
7.050000D+02	0.0	-3.710933D+00	0.0	1.221227D+04	
THEOF	AICF	B1TF	B1CF	DFW	
THEOR	AICR	B1TR	B1CR	LFW	
1.522102D+01	-1.311788D+00	3.000000D-01	3.000000D-01	1.219223D+03	
1.621693D+01	1.533662D+00	3.000000D-01	3.000000D-01	-4.465914D+01	
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC	
1.571897D+01	-2.923250D+00	-9.678912D-01	9.815741D-02	6.758893D+00	
TF	HF	YF	MHF	LHF	
TR	HR	YR	MHR	LHR	
1.201369D+04	7.965970D+02	-5.225034D+01	2.123664D+03	3.622862D+02	
1.227439D+04	9.397855D+02	2.541089D+02	2.689290D+03	1.329272D+03	
QF	LFZ	YFY	LF	RHFF	
QR	DFX	MF	NF	RHPR	
1.472785D+04	-3.295753D+01	1.897040D+03	6.153675D+03	7.403305D+02	
1.834333D+04	1.219602D+03	-3.248803D+03	6.606692D+02	9.220713D+02	
XR	L/DE	SHP/TOT	WFF	NMLB	
1.523217D+03	5.006488D+00	1.762402D+03	1.763402D+03	5.103772D-02	
SIGOF	CTSF	CPSF	AMIF	LAMDAF	
SIGOR	CTSR	CPSR	AMIR	LAMDAR	
5.841923D-02	8.534932D-02	6.094709D-03	7.654986D-01	-4.603007D-02	
5.841923D-02	8.772371D-02	5.099903D-03	7.691035D-01	-5.688114D-02	
MUF	VF	DFFR	DFF	AOF	
MUR	VR	DFFR		AOF	
2.130691D-01	9.024988D+00	1.579869D+00	9.039673D-01	4.583657D+00	
2.142897D-01	9.050404D+00	1.782483D-02		4.810048D+00	
A1F	B1F	BETAOF	B180F	A270F	
AIR	B1R	BETAOR	B180R	A270R	
3.499863D+00	-2.714644D-02	7.745716D-01	7.802193D+00	8.315642D+00	
3.926333D+00	2.889193D+00	5.202745D-01	8.423770D+00	9.112854D+00	
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF	
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR	
1.520294D+02	-8.863977D+00	3.498800D+02	-5.440929D+00	3.499968D+00	
1.542322D+02	-1.161438D+01	3.499382D+02	-2.54458D+00	4.874785D+00	

CASE 19

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	CTFP	A90F	
RMTR	CTR	CTR	A90RA	
4.941431D-01	8.502567D-02	1.287585D+00		
4.895014D-01	8.6538052D-02	1.428714D+00		

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NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	MFF	RP
2.723727D+01	7.675677D+02	1.817374D+03	4.949476D-02	
2.773535D+01	9.498066D+02	1.818374D+03	1.202723D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 28

PAGE 3

V	FE	RC	ALPHA	GW	RHO	XF LW
9.00000D+01	0.0	2.430000D+04	ALFF	THETA	LF LW	
4.40000D+01	1.183132D+00	-2.017714D+00	2.378000D-03	9.445822D+02		
			1.273540D+00	1.200964D+04		
VTF	CGF	BETAF	PSI	XR LW		
VTR	CGL	PHI	GAMMA	LR LW		
7.050000D+02	6.239495D+00	0.0	-5.505665D-03	1.5227796D+03		
7.050000D+02	0.0	-2.804906D-01	0.0	1.224063D+04		
THEOF	A1CF	B1TF	B1CF	DFW		
THEOR	A1CR	B1TR	B1CR	LFFW		
1.502392D+01	2.016315D-01	4.000000D-01	4.000000D-01	1.213759D+03		
1.607626D+01	4.403150D-02	4.000000D-01	4.000000D-01	-3.845582D+01		
THETAC	DELTAB	DELTAIS	DELTAR	DELTAC		
1.555009D+01	-2.983050D+00	4.580045D-02	3.946002D-02	6.627978D+00		
TF	HF	YF	MHF	LHF		
TR	HR	YR	MHR	LHR		
1.201996D+04	8.025157D+02	1.138284D+02	2.22661D+03	8.840871D+02		
1.230170D+04	9.055911D+02	9.806206D+01	2.482876D+03	8.562026D+02		
QF	LFZ	YFY	LF	RHPP		
QR	DFX	MF	NF	RHPR		
1.396071D+04	-1.338584D+01	1.090393D+02	4.520606D+02	7.017683D+02		
1.783007D+04	1.214294D+03	-2.537680D+03	3.768367D+02	8.962710D+02		
XR	L/DE	SHPTOT	WF	NNMB		
1.290422D+03	5.006579D+00	1.693039D+03	1.699039D+03	5.297111D-02		
SIGOF	CTSF	CPSF	AMTF	LAMDAF		
SIGOR	CTSR	CPSR	AMTR	LAMDAR		
5.841923D-02	8.522005D-02	3.881425D-03	7.668234D-01	-4.402021D-02		
5.841923D-02	8.796793D-02	4.957204D-03	7.684558D-01	-5.574436D-02		
MUF	VF	DFFR	DFF	AOF		
MUR	VR	DFFR		AOR		
2.133419D-01	9.047052D+00	1.637684D+00	9.371239D-01	4.562902D+00		
2.144992D-01	9.077837D+00	2.718313D-41		4.781675D+00		
A1F	B1F	BETAOF	B180F	A270F		
AIR	B1R	BETAOR	B180R	A270R		
3.619360D+00	1.435602D+00	6.804583D-01	7.939969D+00	8.382135D+00		
4.034667D+00	1.390314D+00	4.637608D-01	8.553537D+00	9.099088D+00		
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF		
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR		
1.520046D+02	-8.316868D+00	3.600000D+02	-4.697509D+00	3.893677D+00		
1.542123D+02	-1.130169D+01	3.600000D+02	-1.782201D+00	4.267495D+00		

CASE 20

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NNF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
4.925694D+01	CTFP	A90F		
4.915482D+01	CTR _P	A90RA		
	8.514393D+02	1.274857D+00		
	8.678161D+02	1.444103D+00		

3

NON UNIFORM DOMINANT POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WFF	RP
2.7227515D+01	7.290434D+02	1.753114D+03	5.130795D-02
2.779977D+01	9.240708D+02	1.754114D+03	1.246783D+03

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC ALPHA 0.0	GW ALFF 2.430000D+04	ZHO THETA 2.378000D-03	XF LW LF LW 9.671229D+02
9.000000D+01 4.400000D+01	7.795013D-01	-2.337376D+00	1.281640D+00	1.200162D+04
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW 1.564034D+03
7.050000D+02 7.050000D+02	6.239495D+00 0.0	1.000000D+01 2.916720D+00	-9.946250D+00 0.0	1.220685D+04
THEOF THEOR	AICF AICR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.521724D+01 1.612297D+01	1.826649D+00 -1.439146D+00	3.000000D-01 3.000000D-01	3.000000D-01 3.000000D-01	1.217850D+03 -3.167041D+01
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.567010D+01	-2.852683D+00	1.091710D+00	1.460122D-02	6.721011D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
1.201060D+04 1.227431D+04	8.483109D+02 8.913479D+02	3.128520D+02 -6.800444D+01	2.476091D+03 2.328072D+03	1.503769D+03 3.223117D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHPF RHPR
1.451663D+04 1.814343D+04	-1.509930D+01 1.218168D+03	-1.615193D+03 -3.228786D+03	-3.602093D+03 -8.233391D+02	7.297127D+02 9.120228D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.426360D+03	4.983817D+00	1.741736D+03	1.742736D+03	5.164295D-02
SIGOF SIGOR	CTSF CTS R	CPSF CP SR	AMTF ANTR	LAMDAF LAMDAR
5.841923D-02 5.841923D-02	8.559566D-02 8.741111D-02	4.035983D-03 5.044326D-03	7.675329D-01 7.668135D-01	-4.520572D-02 -5.628126D-02
MUF MUR	VF VR	DFFR DFRF	DFF	A0F A0R
2.131924D-01 2.143783D-01	9.012426D+00 9.052974D+00	1.598332D+00 1.783390D-02	9.018537D-01	4.586698D+00 4.799326D+00
A1F AIR	B1F B1R	BETA0F BETA0R	B180F B180R	A270F A270R
3.532225D+00 3.815998D+00	3.110943D+00 -1.452886D-01	7.680092D-01 6.879727D-01	7.868359D+00 8.353807D+00	8.578515D+00 9.013780D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPIPF BPTPR
1.520288D+02 1.542083D+02	-8.647197D+00 -1.145486D+01	1.011364D+01 1.005711D+01	-5.188274D+00 -2.404501D+00	4.706865D+00 3.818762D+00

CASE 21

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	10.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.903490D-01			A90F	
4.931979D-01			A90RA	
		CTFP		
		CTR P		
		8.508709D-02	1.248229D+00	
		8.654208D-02	1.537813D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	HMLB
	RHPR	WFF	RP
2.725694D+01	7.569696D+02	1.796715D+03	5.006354D-02
2.772304D+01	9.397458D+02	1.797715D+03	1.216544D+03
			STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW
9.000000D+01 4.400000D+01	0.0 -1.344163D+00	2.430000D+04 -4.549825D+00	2.378000D-03 1.136039D+00	1.242966D+03 1.211996D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 2.000000D+01 6.646219D+00	PSI GAMMA -2.001052D+01 6.0	XR LW LR LW 1.739614D+03 1.223847D+04
THEOF THEOR 1.580881D+01 1.653114D+01	A1CF A1CR 2.818593D+00 -3.135577D+00	B1TF B1TR -2.000000D-01 -2.000000D-01	B1CF B1CR -2.000000D-01 -2.000000D-01	DFW LFFW 1.112731D+03 -3.281118D+02
THETAC 1.616988D+01	DELTAB -2.630932D+00	DELTIAS 1.970622D+00	DELTAR -2.016580D-01	DELTAC 7.103508D+00
TF TR 1.234498D+04 1.232523D+04	HF HR 9.685237D+02 9.461548D+02	YF YR 3.580354D+02 -2.644667D+02	MHF MHR 2.902265D+03 2.425583D+03	LHF LHR 1.553666D+03 -2.866844D+02
QF QR 1.683866D+04 1.987380D+04	LFZ DFX -3.541239D+02 1.104728D+03	YFY MF -3.437586D+03 -6.572895D+03	LF NF -6.491987D+03 8.423144D+02	RHPP RHPR 8.464353D+02 9.990037D+02
XR 2.186193D+03	L/DE 5.007200D+00	SHP10T 1.945439D+03	WFF 1.946439D+03	NMLB 4.623828D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 8.613412D-02 8.748253D-02	CPSF CPSR 4.681567D-03 5.525411D-03	AMTF AMTR 7.674643D-01 7.644306D-01	LANDAF LANDAR -5.189797D-02 -6.016216D-02
MUF MUR 2.122129D-01 2.135951D-01	VF VR 9.088766D+00 9.0886170D+00	DFFR DFRF 1.386199D+00 6.879415D-02	DFF 8.817650D-01	A0F A0R 4.698093D+00 4.794338D+00
ALF AIR 3.544271D+00 3.538525D+00	B1F B1R 4.012824D+00 -1.797301D+00	BETA0F BETA0R 8.866058D-01 9.755969D-01	B180F B180R 7.990444D+00 8.071623D+00	A270F A270R 8.901771D+00 9.107058D+00
CAPVF CAPVR 1.521163D+02 1.5422866D+02	ALPHAF ALPHAR -1.041502D+01 -1.247974D+01	BETAFW BETARW 2.032896D+01 2.019166D+01	ATIPF ATIPR 3.527001D+02 3.551944D+02	BPTPF BPTPR 5.353934D+00 3.968809D+00

CASE 16

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.892714D-01	8.592612D-02	1.397557D+00	
4.949311D-01	8.676632D-02	1.569008D+00	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SHTOT	NMLB
DELHPR	RHPR	WFF	RP
2.752572D+01	8.739610D+02	2.000760D+03	4.496044D-02
2.779487D+01	1.026799D+03	2.001760D+03	1.092539D+03

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.958558D-02	4.723555D-02	5.016810D-02	1.754310D-01
1.593877D-03	1.270340D+00	-4.442666D-02	2.276986D-01
1.5266469D-02	-6.187509D-02	-5.849927D-02	2.180688D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.016543D-02	-1.183339D+00	4.884823D-01	-6.716721D+00
1.269838D-02	-1.350001D+00	7.798528D-01	1.814070D+00
-6.400966D-01	-5.279939D-01	-1.1863304D-01	-9.144312D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.099201D-03	1.423174D-02	4.608876D-01	1.249247D-01
-3.480847D-03	-1.214734D+00	-2.924120D-02	-4.972679D-01
9.659681D-03	-3.857668D-01	-1.766141D-01	1.379966D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-2.199858D-02	-1.326903D+00	2.040350D-02	-9.328725D-03
-1.181390D-01	4.900068D-02	8.732951D-01	-1.68713D+01
4.048017D-02	-1.460267D-01	-1.630454D-02	5.782929D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-3.037993D-03	-7.566427D-01	-2.041732D-02	-2.422971D-02
-1.034541D-02	1.288691D-01	4.121824D-01	-1.477927D+00
1.161481D-02	-2.950757D-03	-1.503046D-01	1.659272D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
3.331730D-04	-2.205586D-02	4.649726D-02	8.354857D-03
-2.410582D-03	-1.924059D-01	1.318946D-02	-3.443716D-01
-5.0664734D-03	-9.000282D-02	1.670629D-01	-7.235394D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.513D-05-0.	362D-02	0.102D-03	0.145D-01-0	134D-02	0.530D-01
CTR	0.801D-05	0.565D-02	0.860D-04	0.123D-01	0.183D-02	0.406D-01
CHF	0.197D-05	0.139D-02	0.109D-04	0.155D-02-	0.360D-03	0.663D-02
CFR	0.351D-05	0.248D-02	0.859D-05	0.123D-02-	0.398D-04	0.508D-02
AIF	0.515D-03	0.363D+00	0.753D-03	0.108D+00-	0.650D-01	0.652D+00
AIR	0.649D-03	0.457D+00	0.634D-03	0.906D-01-	0.732D-01	0.574D+00
VFR	-0.645D-01-0.	454D+02	0.186D+00	0.266D+02-	0.259D+01	0.947D+02
VRR	-0.389D-01-0.	275D+02	0.157D+00	0.224D+02	0.340D+01	0.693D+02
LF			0.283D+02	0.405D+04		
DF			0.783D+01	0.112D+04		
NF			0.265D+03	0.378D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.263D-05-0.	376D-03-0.	204D-03-0.	891D-04	0.508D-02	
CYR	0.269D-05	0.385D-03	0.210D-03-0.	448D-04	0.519D-02	
B1F	-0.320D-04-0.	457D-02-0.	0.519D-01-0.	138D-01	0.953D+00	
B1R	0.186D-03	0.265D-01	0.842D-01-0.	231D-02	0.989D+00	
YF	-0.764D+02-0.	109D+05				
LF	-0.384D+02-0.	548D+04				
NF	-0.248D+03-0.	354D+05				
C1F					-0.569D-02	
C1R					0.652D-02	

FORCE = 0.241446D+07

X	Z	H	Y	L	N		BICF	BICR	OMEGAF	OMEGAR	
0.133D+02	0.152D+02	0.0	0.0	0.0	0.0		0.371D+02	0.491D+02	0.0	0.0	
-0.752D+01	0.374D+01	0.0	0.0	0.0	0.0		-0.117D+00	-0.570D+00	0.0	0.0	
-0.168D+00	-0.177D+00	0.0	0.0	0.0	0.0		-0.602D-01	0.587D-01	0.0	0.0	
CTF	-0.144D-01	0.223D-05	0.0	0.0	0.0		CTR	-0.356D-02	-0.148D-01	0.0	0.0
CHF	-0.657D-02	0.823D-06	0.0	0.0	0.0		CHR	-0.345D-03	-0.667D-02	0.0	0.0
AIF	-0.106D+01	0.143D-03	0.0	0.0	0.0		AIR	-0.232D-01	-0.106D+01	0.0	0.0
VFR	-0.257D+02	-0.494D-01	0.0	0.0	0.0		VRR	0.678D+01	-0.259D+02	0.0	0.0
QF	0.249D+01	-0.377D-02	0.0	0.0	0.0		QR	-0.340D+00	-0.333D+00	0.0	0.0
QFU	QFP	QFDLB	QFDLTAC				QFV	QFQ	QFDLS	QFBETA	
QFW	QFR	QFDLR	QFALPHA								
-0.654D-02	0.132D+00	0.603D+00	0.131D+01				-0.264D-02	0.357D+01	0.276D-01	-0.377D+00	
-0.271D-01	-0.480D+00	0.419D-01	-0.387D+01								
QRU	QRP	QRDELB	QRDELTAC				QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA								
-0.876D-02	0.510D+00	-0.751D+00	0.156D+01				-0.325D-02	0.310D+01	0.282D-01	-0.464D+00	
-0.709D-02	0.780D+00	-0.606D-01	-0.101D+01								

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
9.00000D+01	0.0	-2.430000D+04	2.378000D-03	1.691310D+03
4.40000D+01	-4.997702D+00	-8.580226D+00	1.314824D+00	1.278934D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+00	3.000000D+01	-3.025415D+01	2.071208D+03
7.05000D+02	0.0	1.094030D+01	0.0	1.266319D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.701859D+01	4.661770D+00	-1.000000D+00	-1.000000D+00	9.700027D+02
1.738200D+01	-4.287738D+00	-1.000000D+00	-1.000000D+00	-1.784848D+03
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.720030D+01	-2.193590D+00	2.769539D+00	-2.156492D-01	7.907208D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.284142D+04	1.235109D+03	4.636263D+02	3.637626D+03	1.795995D+03
1.280192D+04	1.124318D+03	-3.529037D+02	2.718985D+03	-5.446900D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.150238D+04	-1.862565D+03	-5.419590D+03	-8.216561D+03	1.080868D+03
2.341486D+04	8.108265D+02	-1.452765D+04	-7.286361D+02	1.177004D+03
XR	L/DE	SHP10T	WFF	HMLB
3.580365D+03	4.907950D+00	2.357872D+03	2.358872D+03	3.815383D-02
SIGOF	CISF	CPSF	AMTF	LAMDAF
SIGOR	CISR	CPSR	AMTR	LAMDAR
5.841923D-02	9.115262D-02	5.978197D-03	7.671342D-01	-6.226428D-02
5.841923D-02	9.102502D-02	6.509914D-03	7.614627D-01	-6.736959D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
2.104714D-01	9.565077D+00	1.119045D+00	8.780490D-01	5.079940D+00
2.120801D-01	9.401214D+00	1.429184D-01		5.107869D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
3.596825D+00	5.530076D+00	1.187976D+00	8.402412D+00	9.864679D+00
3.361056D+00	-3.002286D+00	1.458764D+00	8.198218D+00	9.678861D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.523021D+02	-1.302720D+01	3.071336D+01	3.49991D+02	6.596885D+00
1.542930D+02	-1.429380D+01	3.045551D+01	3.513634D+02	6.506708D+00

CASE 22

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
4.867479D+01	CTFP	A9OF		
4.963698D+01	CTRP	A9RA		
	9.067172D+02	1.640529D+00		
	8.991920D+02	1.858821D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPOT	HMLB
	DELHPR	RHPR	WFF	RP
2.984593D+01	1.109914D+03	2.415723D+03	3.724051D-02	
2.888487D+01	1.205809D+03	2.416723D+03	9.049445D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

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V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW
1.30000D+02	0.0	2.63000D+04	2.378000D-03	1.763940D+03
4.40000D+01	-2.665293D+00	-4.195972D+00	-1.253855D+00	1.233476D+04
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW
7.05000D+02	6.239495D+00	-1.000000D+01	1.025374D+01	1.863862D+03
7.05000D+02	0.0	-7.648992D+00	0.0	1.207582D+04
THEOF THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFFF
1.808986D+01	-3.224485D+00	2.800000D+00	2.800000D+00	2.591094D+03
1.842422D+01	2.705266D+00	4.000000D+00	4.000000D+00	-3.911438D+02
THETAC	DELTAB	DEL TAS	DELTAR	DELTAC
1.825704D+01	-3.078525D+00	-1.969002D+00	-5.766228D-03	8.726388D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
1.243187D+04	8.405700D+02	-3.233263D+02	2.214811D+03	-8.246286D+01
1.220123D+04	6.553016D+02	4.655965D+02	2.053244D+03	2.169061D+03
QF QR	LFZ DFX	YFY MF	LF NF	RHPP RHPR
2.487558D+04	-5.112101D+02	4.033652D+03	1.012094D+04	1.250430D+03
2.605292D+04	2.570102D+03	-8.535413D+03	-1.932317D+02	1.309612D+03
XR	L/DE	SHPTOT	WFF	NPLB
3.200600D+03	7.017512D+00	2.660042D+03	2.661042D+03	4.885304D-02
SIGOF SIGOR	CTS F CTS R	CPS F CPS R	AMTF AMTR	LAMDAF LANDAR
5.841923D-02	8.799698D-02	6.916030D-03	8.228544D-01	-7.399537D-02
5.841923D-02	8.634329D-02	7.2433360D-03	8.270459D-01	-7.340672D-02
MUF MUR	VF VR	DFFR DFRF	DFF	A0F A0R
3.046548D-01	6.487776D+00	1.406451D+00	9.041750D-01	4.838761D+00
3.071490D-01	6.323017D+00	1.760728D-02		4.787698D+00
A1F AIR	B1F B1R	BETA OF BETA OR	B180F B180R	A270F A270R
3.517683D+00	-7.698722D-01	6.886889D-01	7.817377D+00	1.206169D+01
2.6663812D+00	4.055786D+00	1.4662988D+00	6.889082D+00	1.232765D+01
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
2.195854D+02	-1.200655D+01	3.497859D+02	3.513524D+02	3.600944D+00
2.212540D+02	-1.184845D+01	3.498697D+02	3.529985D+02	4.852350D+00

CASE 17

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.365467D-01		8.744897D-02	7.666567D-01	
4.288502D-01		8.561319D-02	7.138373D-01	

NON UNIFORM DOMINASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
7.445738D+01	1.324888D+03	2.807394D+03	4.628981D-02	
7.289433D+01	1.382506D+03	2.808394D+03	1.124642D+03	

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.693895D-02	9.180403D-02	2.900840D-02	2.777519D-01
6.909016D-03	5.387598D-01	4.558838D-02	1.492641D+00
4.952783D-02	-7.829678D-02	-2.390858D-02	1.070011D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
2.120424D-02	-1.3314787D+00	3.921012D-01	-7.674556D+00
-4.330308D-03	-2.200874D+00	-6.139698D-01	-9.355302D-01
-7.267266D-01	-4.322602D-01	2.016821D-01	-1.570038D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-2.230502D-03	2.328705D-01	5.021338D-01	1.212439D-01
1.124299D-03	-1.393218D+00	6.662946D-03	2.428962D-01
9.070257D-03	-3.438292D-01	1.337847D-01	1.959560D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.501974D-02	-7.812430D-01	-1.249249D-02	-1.433803D-01
-1.470434D-01	-5.387195D-02	8.733435D-01	-3.176762D+01
-3.389671D-02	-1.580169D-01	1.725762D-02	-7.323128D+00
LU	LP	LDELB	LDELTAC
LY	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
2.142914D-03	-5.325817D-01	-4.750988D-02	-4.03754D-02
-1.844431D-02	5.996011D-02	4.132297D-01	-3.984753D+00
-1.592161D-02	-1.548380D-02	-1.340950D-01	-3.439742D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
5.804944D-04	-2.026635D-02	7.170768D-02	-5.128932D-03
2.289624D-03	-1.646903D-01	1.611263D-02	4.946560D-01
1.181120D-03	-8.315143D-02	1.718999D-01	2.551721D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.833D-05-0	.587D-02	0.108D-03	0.234D-01-0	1.55D-02	0.597D-01
CTR	0.169D-06	0.119D-03	0.922D-04	0.199D-01-0	2.27D-02	0.482D-01
CHF	0.169D-05	0.119D-02	0.912D-05	0.197D-02-0	2.30D-03	0.686D-02
CHR	0.241D-05	0.170D-02	0.593D-05	0.128D-02-0	7.92D-04	0.501D-02
AIF	0.472D-03	0.333D+00	0.113D-02	0.243D+00-0	9.74D-01	0.989D+00
AIR	0.557D-03	0.392D+00	0.970D-03	0.209D+00-0	4.93D-01	0.887D+00
VFR	-0.395D-01-0	.278D+02	0.138D+00	0.297D+02-0	2.04D+01	0.748D+02
VRR	-0.269D-01-0	.190D+02	0.116D+00	0.251D+02-0	2.91D+01	0.593D+02
LFF			0.646D+02	0.140D+05		
DF			-0.305D+01-0	0.659D+03		
MF			0.270D+03	0.583D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.302D-05-0	0.653D-03	0.125D-03-0	0.473D-04	0.524D-02
CYR	0.297D-05	0.642D-03	0.120D-03	0.242D-05	0.510D-02
BIF	-0.284D-03-0	0.613D-01-0	0.705D-01-0	0.170D-01	0.104D+01
BIR	0.337D-03	0.728D-01	0.645D-01	0.161D-03	0.999D+00
YF	-0.966D+02-0	0.209D+05			
LF	-0.165D+03-0	0.357D+05			
NF	0.256D+03	0.552D+05			
CTF			0.372D-02		
CTR			-0.525D-02		

FORCE = 0.241446D+07

CASE 17

PAGE 6

	BICF	BICR	OMEGAF	OMEGAR
X	0.113D+02	0.125D+02	0.0	0.0
Z	0.626D+02	0.754D+02	0.0	0.0
H	-0.110D+02	0.669D+01	0.0	0.0
Y	0.150D+01	0.188D+01	0.0	0.0
L	0.287D+00	0.634D+00	0.0	0.0
N	-0.200D+00	0.244D+00	0.0	0.0
CTF	-0.234D-01	0.155D-05	0.0	0.0
CTR	0.442D-02	-0.233D-01	0.0	0.0
CHF	-0.720D-02	0.272D-06	0.0	0.0
CHR	0.261D-03	-0.678D-02	0.0	0.0
AIF	-0.124D+01	0.574D-04	0.0	0.0
AIR	0.431D-01	-0.124D+01	0.0	0.0
VFR	-0.293D+02	-0.231D-01	0.0	0.0
VRR	0.574D+01	-0.290D+02	0.0	0.0
QF	-0.125D+02	-0.878D-03	0.0	0.0
QR	0.335D+01	-0.141D+02	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	QFBETA
QFV	QFQ	QFDELS	QFDELTAC	QFALPHA
QFW	QFR	QFDELR	QFDELTAC	QFALPHA
-0.722D-02	-0.953D+00	0.126D+01	0.226D+01	0.231D+01
0.275D-02	0.803D+00	0.424D-01	0.594D+00	0.154D+00
0.612D-01	-0.107D+01	0.615D-01	0.132D+02	0.145D+02
QRU	QRP	QRDELB	QRDELTAC	QRBETA
QRV	QRQ	QRDELS	QRDELTAC	QRALPHA
QRW	QRR	QRDELR	QRDELTAC	QRALPHA
-0.264D-02	-0.707D+00	-0.144D+01	0.231D+01	0.231D+01
0.711D-03	0.227D+01	0.598D-01	0.154D+00	0.154D+00
0.670D-01	0.101D+01	-0.153D+00	0.145D+02	0.145D+02

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.300000D+02	0.0	-2.430000D+04	2.378000D-03	1.597404D+03
4.400000D+01	-1.818893D+00	-3.338415D+00	-1.105272D+00	1.230802D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	-7.000000D+00	7.140852D+00	1.743063D+03
7.050000D+02	0.0	-5.622264D+00	0.0	1.203956D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFF
1.769107D+01	-2.792878D+00	2.800000D+00	2.800000D+00	2.549497D+03
1.801993D+01	1.369686D+00	4.000000D+00	4.000000D+00	-2.264912D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.785550D+01	-3.089878D+00	-1.380198D+00	-2.408380D-01	8.415117D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.238320D+04	8.339421D+02	-3.103367D+02	2.220414D+03	-7.328367D+01
1.214890D+04	6.273897D+02	2.502201D+02	1.896853D+03	1.527909D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.308039D+04	-3.072989D+02	2.941184D+03	7.016081D+03	1.160191D+03
2.426950D+04	2.541024D+03	-8.195570D+03	2.906414D+03	1.219964D+03
XR	L/DE	SHPTOT	WFF	NMLB
2.855317D+03	7.237671D+00	2.480155D+03	2.481155D+03	5.239495D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS	CPSR	AMTR	LAMDAR
5.841923D-02	8.764770D-02	6.616924D-03	8.234834D-01	-6.991036D-02
5.841923D-02	8.592952D-02	6.747525D-03	8.269449D-01	-6.984591D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.054691D-01	6.459316D+00	1.476067D+00	9.076446D-01	4.789668D+00
3.078089D-01	6.296166D+00	8.733789D-03		4.720304D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.564865D+00	-5.660836D-01	6.019318D-01	7.823013D+00	1.186541D+01
2.751990D+00	-2.842409D+00	1.324709D+00	6.923788D+00	1.205164D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.195729D+02	-1.124758D+01	3.528661D+02	3.522460D+02	3.609531D+00
2.212138D+02	-1.119415D+01	3.529206D+02	3.533933D+02	3.956354D+00

CASE 23

PAGE 4

	XFF	ZFF	HFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
4.358673D-01	8.725935D-02	7.064590D-01		
4.304721D-01	8.535611D-02	6.718120D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP DELHPR	RHPF RHPR	SHPTOT HFF	NMLB RP
7.629594D+01	1.234487D+03	2.627126D+03	4.946490D-02	
7.267544D+01	1.292639D+03	2.628126D+03	1.201997D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

NADC-81118-60
Volume 4

V FE 1.300000D+02 4.400000D+01	RC ALPHA 0.0 -1.3372500D+00	GW ALFF 2.430000D+04 -2.857362D+00	RHO THETA 2.378000D-03 -1.072938D+00	XF LW LF LW 1.497897D+03 1.226649D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI -4.000000D+00 -3.535437D+00	PSI GAMMA 4.073584D+00 0.0	XR LW LR LW 1.677397D+03 1.202210D+04
THEOF THEOR 1.742019D+01 1.783977D+01	AICF AICR -1.756705D+00 2.826202D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 2.540667D+03 -9.586558D+01
THETAC 1.762998D+01	DELTAB -3.176516D+00	DELTIAS -6.969090D-01	DELTAR -2.881328D-01	DELTAC 8.240294D+00
TF TR 1.232968D+04 1.212328D+04	HF HR 8.304092D+02 6.086965D+02	YF YR -1.600285D+02 1.011094D+02	MHF MHR 2.249239D+03 1.828140D+03	LHF LHR 3.354163D+02 1.153959D+03
QF QR 2.186374D+04 2.345369D+04	LFZ DFX -1.551318D+02 2.537738D+03	YFY MF 1.763038D+03 -7.542959D+03	LF NF 3.587519D+03 2.948459D+03	RHFF RHPR 1.099033D+03 1.178956D+03
XR 2.658232D+03	L/DE 7.366774D+00	SHPTOT 2.377989D+03	WFF 2.378989D+03	NMLB 5.464507D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CTSR 8.724572D-02 8.646818D-02	CPSF CPSR 6.078665D-03 6.520711D-03	AMIF AMIR 8.246903D-01 8.268464D-01	LAMDAF LAMDAR -6.756596D-02 -6.779481D-02
MUF MUR 3.059086D-01 3.081605D-01	VF VR 6.434411D+00 6.283966D+00	DFFR DFRF 1.515671D+00 2.865165D-03	DFF 9.148283D-01	AOF AOR 4.746119D+00 4.648245D+00
AIF AIR 3.683908D+00 2.830139D+00	B1F B1R 2.837760D-01 2.078598D+00	BETAOF BETAOR 4.446922D-01 1.217826D+00	B180F B180R 7.902866D+00 6.934472D+00	A270F A270R 1.174972D+01 1.194638D+01
CAPVF CAPVR 2.195656D+02 2.211835D+02	ALPHAF ALPHAR -1.081516D+01 -1.081733D+01	BETAFW BETARW 3.559287D+02 3.559585D+02	ATIPF ATIPR 3.528467D+02 3.546929D+02	BPTPF BPTPR 3.694822D+00 3.511447D+00

CASE 24

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
4.347956D-01	8.696494D-02	6.543012D-01		
4.314583D-01	8.523228D-02	5.618376D-01		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPPF	SHTTOT	NMLB
	DELHPR	RHPR	WFF	RP
7.404526D+01	1.173073D+03	2.524604D+03	5.147283D-02	
7.257001D+01	1.251520D+03	2.525604D+03	1.250790D+03	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE 1.300000D+02 4.400000D+01	RC ALPHA 0.0 -1.083190D+00	GW ALFFF 2.430000D+04 -2.625984D+06	RHO THETA 2.378000D-03 -1.0833217D+00	XFLW LFLW 1.428582D+03 1.225306D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 0.0 -5.3684665D-01	PSI GAMMA 1.010817D-02 0.0	XRLW LR LW 1.647009D+03 1.210442D+04
THE0F THE0R 1.729076D+01 1.777400D+01	A1CF A1CR -3.991898D-01 -4.010202D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFW 2.539126D+03 -1.194912D+02
THE1AC 1.753238D+01	DELTAB -3.226326D+00	DELTIAS 2.739090D-04	DELTA R -1.658340D-01	DELTAC 8.164636D+00
TF TR 1.230700D+04 1.220666D+04	HF HR 8.461516D+02 6.111350D+02	YF YR 3.626229D+01 4.643851D+01	MHF MHR 2.336705D+03 1.7203337D+03	LHF LHR 9.514739D+02 9.888754D+02
QF QR 2.126262D+04 2.330250D+04	LFZ DFX -1.674698D+02 2.536413D+03	YFY MF 2.387205D+02 -6.007064D+03	LF NF 9.876602D+02 7.636177D+02	RHPP RHPR 1.068816D+03 1.171356D+03
XR 2.539063D+03	L/DE 7.312597D+00	SHPTOT 2.340172D+03	WFF 2.341172D+03	NMLB 5.552774D-02
SIG0F SIG0R 5.841923D-02 5.841923D-02	CTSF CTSR 8.727108D-02 8.679127D-02	CPSF CP SR 5.911539D-03 6.478676D-03	AMTF AMTR 8.259065D-01 8.264180D-01	LAMDAF LAMDAR -6.631751D-02 -6.676240D-02
MUF MUR 3.061380D-01 3.083416D-01	VF VR 6.428378D+00 6.322782D+00	DFFR DFRF 1.535672D+00 6.766253D-42	DFF 9.281690D-01	AOF AO R 4.757924D+00 4.737631D+00
AIF AIR 3.796780D+00 2.794341D+00	B1F B1R 1.545052D+00 1.605803D+00	BETAOF BETAOR 3.262549D-01 1.296990D+00	B180F B180R 8.024888D+00 6.986552D+00	A270F A270R 1.177896D+01 1.197524D+01
CAPVF CAPVR 2.195622D+02 2.211664D+02	ALPHAF ALPHAR -1.058319D+01 -1.061603D+01	BETAFW BE TARM 5.945500D-19 5.882210D-19	ATIPF ATIPR 3.532136D+02 3.547112D+02	BPTPF BPTPR 4.099113D+00 3.222878D+00

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	XFF	ZFF	HFF	TP
LF	0.0	0.0	0.0	0.0
LFF	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR P	A90RA	
4.331565D-01	8.686971D-02		6.371966D-01	
4.316688D-01	8.581590D-02		6.557453D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	RHPT	SHPTOT	HMLB
DELHPPF	RHPPF		WFF	RP
DELHPR	RHPR			
7.396418D+01	1.142781D+03	2.487203D+03	5.224654D-02	
7.306693D+01	1.244423D+03	2.488203D+03	1.269591D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHO	XF LW
FE	ALPPHA	ALFF	THETA	LF LW
1.300000D+02	0.	2.430000D+04	2.378000D-03	1.479471D+03
4.400000D+01	-1.351491D+00	-2.886922D+00	-1.117040D+00	1.232541D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	4.000000D+00	-4.064487D+00	1.707104D+03
7.050000D+02	0.	2.115195D+00	0.	1.212921D+04
THEBF	AICF	B1TF	B1CF	DFW
THEGR	AICR	B1TR	B1CR	LFW
1.748466D+01	1.362109D+00	2.800000D+00	2.800000D+00	2.534517D+03
1.789934D+01	-9.524391D-01	4.000000D+00	4.000000D+00	-2.347801D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.769197D+01	-3.172727D+00	7.971018D-01	2.652705D-02	8.288347D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.238387D+04	8.626461D+02	3.276999D+02	2.990435D+03	1.844041D+03
1.223413D+04	5.982734D+02	3.014366D+01	1.629734D+03	9.234693D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.214757D+04	-2.944933D+02	-1.185223D+03	-1.782904D+03	1.113300D+03
2.389006D+04	2.528274D+03	-6.762527D+03	-4.429740D+03	1.200891D+03
XR	L/DE	SHPTOT	WFF	NMLB
2.669239D+03	7.193027D+00	2.414191D+03	2.415191D+03	5.382598D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMIR	LAMDAR
5.841923D-02	8.813537D-02	6.157175D-03	8.268392D-01	-6.71249D-02
5.841923D-02	8.713280D-02	6.642031D-03	8.266072D-01	-6.786527D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
3.058961D-01	6.484005D+00	1.491716D+00	9.150356D-01	4.808400D+00
3.081493D-01	6.359934D+00	2.862229D-03		4.771779D+01
A1F	B1F	BETA OF	B180F	A270F
A1R	B1R	BETA OR	B180R	A270R
3.824079D+00	3.275229D+00	2.700125D-01	8.012951D+00	1.178379D+01
2.746175D+00	1.309270D+00	1.294608D+00	6.889505D+00	1.180429D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPPR
2.195656D+02	-1.082943D+01	4.071456D+00	3.529726D+02	5.034949D+00
2.211708D+02	-1.081102D+01	4.041610D+00	3.543947D+02	3.042312D+00

CASE 26

PAGE 4

	ZFF	WFF	TP
XFF	YFF	WFF	TP
LFF	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR P	A90RA	
4.306138D+01	8.738263D-02	5.991993D-01	
4.322552D+01	8.599166D-02	6.684127D-01	

2

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	RHPF	SHPTOT	NMLB
DELHPP			WFF	RP
DELHPR				
7.440090D+01	1.187701D+03	2.561808D+03	5.072561D-02	
7.321657D+01	1.274107D+03	2.562808D+03	1.232632D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 1.390000D+02 4.400000D+01	RC ALPHA 0.0 -1.571762D+00	GW ALFFF 2.630000D+04 -3.092422D+00	RHO THETA 2.378000D-03 -1.043894D+00	XF LW LF LW 1.500844D+03 1.233762D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI 7.000000D+00 4.246791D+00	PSI GAMMA -7.094548D+00 0.0	XR LW LR LW 1.746263D+03 1.209331D+04
THEOF THEOR 1.760221D+01 1.880833D+01	AICF AICR 2.152976D+00 -2.031798D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFFW 2.529263D+03 -2.596985D+02
THETAC 1.780527D+01	DELTAB -3.150327D+00	DELTAS 1.389951D+00	DELTAR -5.4866749D-02	DELTAC 8.376177D+00
TF TR 1.239728D+04 1.220453D+04	HF HR 8.813851D+02 5.891133D+02	YF YR 4.203414D+02 -1.230198D+02	MHF MHR 2.580754D+03 1.577624D+03	LHF LHR 2.061093D+03 5.008750D+02
QF QR 2.267992D+04 2.435305D+04	LFZ DFX -3.289759D+02 -2.521188D+03	YFY MF -2.340803D+03 -7.603779D+03	LF NF -4.641300D+03 -3.762919D+03	RHPP RHPR 1.140060D+03 1.224164D+03
XR 2.752301D+03	L/DE 7.104133D+00	SHPTOT 2.464225D+03	WFF 2.465225D+03	NMLB 5.273353D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS CTS 8.781488D-02 8.694628D-02	CPSF CPSE 6.305583D-03 6.770756D-03	AMIF AMIR 8.268592D-01 8.252977D-01	LAMDAF LAMDAR -6.862193D-02 -6.872938D-02
MUF MUR 3.057260D-01 3.080089D-01	VF VR 6.472850D+00 6.323140D+00	DFRF DFRF 1.490763D+00 8.739311D-03	DFF DFF 9.052285D-01	A0F A0R 4.828056D+00 4.728401D+00
A1F AIR 3.746043D+00 2.643036D+00	B1F B1R 3.842999D+00 4.914501D-01	BETAOF BETAOR 4.240477D-01 1.451173D+00	B180F B180R 0.030048D+00 6.824971D+00	A270F A270R 1.209838D+01 1.201709D+01
CAPVF CAPVR 2.195727D+02 2.211957D+02	ALPHAF ALPHAR -1.100243D+01 -1.098019D+01	BETAFW BETARW 7.128749D+00 7.075640D+00	ATIPF ATIPR 3.526743D+02 3.540713D+02	BPIPF BPTPR 5.366701D+00 2.688339D+00

CASE 27

PAGE 4

	XFF	ZFF	HFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
RMTF	CTFP	190F		
RNTR	CTR	A90RA		
4.298130D-01	8.746924D-02	6.517542D-01		
4.334505D-01	8.573717D-02	6.661163D-01		

4

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SIMPOT	NMLB
	DELHPR	RHPR	WFF	RP
7.447464D+01	1.214535D+03	2.611699D+03	4.975697D-02	
7.299989D+01	1.297164D+03	2.612699D+03	1.209094D+03	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE	ALPPHA	ALFF	THETA	LF LW
1.300000D+02	0.0	2.430000D+04	2.378000D-03	1.600634D+03
4.400000D+01	-2.185290D+00	-3.704611D+00	-1.060236D+00	1.233120D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	1.000000D+01	-1.017011D+01	1.845738D+03
7.050000D+02	0.0	6.205655D+00	0.0	1.204313D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
1.789591D+01	2.581428D+00	2.800000D+00	2.800000D+00	2.526905D+03
1.826036D+01	-3.561854D+00	4.000000D+00	4.000000D+00	-2.808479D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.807813D+01	-3.102074D+00	2.046773D+00	-2.904154D-01	8.587700D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.240223D+04	8.973261D+02	4.366545D+02	2.691350D+03	2.142091D+03
1.217010D+04	5.764611D+02	-3.798553D+02	1.493947D+03	-2.495584D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	NF	NF	RHPR
2.398150D+04	-3.769977D+02	-3.438780D+03	-8.213245D+03	1.205487D+03
2.538288D+04	2.514358D+03	-8.325659D+03	-3.491396D+02	1.275901D+03
XR	L/DE	SHP TOT	WEF	NMLB
3.006784D+03	7.024027D+00	2.581388D+03	2.582388D+03	5.034101D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CISR	CPSR	AMIR	LANDAR
5.841923D-02	8.792830D-02	6.667454D-03	8.267004D-01	-7.146090D-02
5.841923D-02	8.597012D-02	7.056906D-03	8.234497D-01	-7.110141D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
3.051775D-01	6.473754D+00	1.437208D+00	8.991181D-01	4.865056D+00
3.075633D-01	6.305820D+00	1.767748D-02	6.503572D+00	4.728252D+00
A1F	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
3.688662D+00	4.199733D+00	5.002004D-01	8.001476D+00	1.226051D+01
2.317432D+00	-8.252363D-01	1.768023D+00	6.503572D+00	1.197425D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARI	ATIPR	BTPPR
2.195845D+02	-1.153410D+01	1.019997D+01	3.520034D+02	5.589632D+00
2.212158D+02	-1.142529D+01	1.012001D+01	3.531321D+02	2.459981D+00

CASE 18

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RHIF	CTFP	A90F	
RHTR	CTRP	A90RA	
4.294558D-01	8.742370D-02	6.909560D-01	
4.351660D-01	8.538137D-02	7.567712D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELFHPF	RHPPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
7.443586D+01	1.279923D+03	2.728521D+03	4.762741D-02
7.269695D+01	1.348598D+03	2.729521D+03	1.157346D+03

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.851604D-02	7.434749D-02	2.160783D-02	3.120021D-01
-4.497733D-03	5.845437D-01	-5.110643D-02	-9.720230D-01
3.928504D-02	-7.925522D-03	-3.895292D-02	8.490045D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
2.315368D-02	-1.671676D-01	4.314681D-01	-7.669774D+00
3.226719D-04	-2.095889D+00	6.119708D-01	6.973390D-02
-7.213545D-01	-4.893664D-01	-1.135673D-02	-1.558948D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MN	MR	MDELR	MALPHA
-2.342582D-03	2.360339D-01	5.042626D-01	1.127782D-01
-3.300085D-04	-1.2384638D+00	-2.347511D-02	-7.131945D-02
8.755720D-03	-4.323928D-01	-1.328066D-01	1.892233D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-1.873780D-02	-7.985975D-01	-4.735069D-02	1.723694D-01
-1.439059D-01	1.437611D-01	8.702295D-01	-3.110007D+01
3.404175D-02	-1.3533199D-01	1.848631D-02	7.356897D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-8.237528D-04	-5.568123D-01	-7.875253D-02	3.243109D-02
-2.390768D-02	2.048652D-01	4.117651D-01	-5.166784D+00
1.201850D-02	2.141494D-02	-1.306644D-01	2.597366D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-9.171279D-04	-2.010374D-02	9.538576D-02	5.599916D-04
-2.342109D-03	-2.413994D-01	1.527625D-02	5.061625D-01
-2.163942D-03	-1.252036D-01	1.585091D-01	-4.676581D-01

LONGITUDINAL	U	MU	W	ALPHA	Q	THETAC
CTF	-0.672D-05-0.615D-02	0.108D-03	0.233D-01-0.133D-02	0.592D-01		
CTR	0.245D-06 0.172D-03	0.927D-04	0.200D-01 0.202D-02	0.486D-01		
CHF	0.166D-05 0.117D-02	0.897D-05	0.194D-02-0.178D-03	0.706D-02		
CHR	0.252D-05 0.178D-02	0.615D-05	0.133D-02 0.202D-04	0.456D-02		
AIF	0.453D-03 0.319D+00	0.112D-02	0.241D+00-0.809D-01	0.987D+00		
AIR	0.558D-03 0.393D+00	0.971D-03	0.210D+00-0.652D-01	0.890D+00		
VFR	-0.395D-01-0.278D+02	0.137D+00	0.295D+02-0.177D+01	0.760D+02		
VRR	-0.266D-01-0.188D+02	0.117D+00	0.253D+02 0.260D+01	0.598D+02		
LF		0.610D+02	0.132D+05			
DF		0.439D+01	0.949D+03			
NF		0.277D+03	0.598D+05			

LATERAL-DIRECTIONAL

V	BETA	P	R	AIC
CYF	-0.300D-05-0.648D-03-0.123D-03-0.990D-04	0.521D-02		
CYR	0.293D-05 0.634D-03	0.126D-03-0.570D-04	0.507D-02	
B1F	-0.252D-03-0.544D-01-0.581D-01-0.175D-01	0.100D+01		
B1R	0.395D-03 0.853D-01	0.768D-01-0.603D-03	0.105D+01	
YF	-0.944D+02-0.204D+05			
LF	-0.265D+03-0.572D+05			
NF	0.268D+03 0.580D+05			
CTF		-0.455D-02		
CTR		0.461D-02		

FORCE = 0.241446D+07

BICF	BICR	OMEGAF	OMEGAR
0.114D+02	0.117D+02	0.0	0.0
0.614D+02	0.765D+02	0.0	0.0
-0.109D+02	0.686D+01	0.0	0.0
-0.133D+01	-0.211D+01	0.0	0.0
-0.827D+01	-0.927D+00	0.0	0.0
-0.758D+00	0.670D+00	0.0	0.0
CTF	-0.231D-01	0.236D-05	0.0
CTR	0.449D-02	-0.237D-01	0.0
CHF	-0.724D-02	0.508D-06	0.0
CHR	0.282D-03	-0.661D-02	0.0
AIF	-0.124D+01	0.975D-04	0.0
AIR	0.441D-01	0.124D+01	0.0
VFR	-0.290D+02	10.381D-01	0.0
VRR	0.581D+01	-0.294D+02	0.0
QF	-0.111D+02	0.924D-03	0.0
QR	0.255D+01	-0.139D+02	0.0
QFU	QFP	QFDELB	QFDELAC
QFV	QFQ	QFDELS	QFBETA
QFW	QFR	QFDELR	QFALPHA
-0.777D-02	0.869D+00	0.124D+01	0.220D+01
-0.185D-02	0.439D+00	-0.624D-01	-0.400D+00
0.610D-01	-0.826D+00	-0.936D-01	0.132D+02
QRU	QRP	QRDELB	QRDELAC
QRV	QRQ	QRDELS	QRBETA
QRW	QRR	QRDELR	QRALPHA
-0.443D-02	0.121D+01	-0.137D+01	0.234D+01
-0.189D-02	0.224D+01	-0.222D-01	-0.408D+00
0.513D-01	0.128D+01	0.798D-01	0.111D+02

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 24,300 lb CG = 6 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-45 kt swd	0 ft /min	-90 deg	
	-30			X
	-15			
	15		90	
	30			X
	45			

V FE	RC ALPHA	GW ALFF	RHO THETA	XFLW
4.500000D+01	0.0	2.430000D+04	2.378000D-03	1.257266D+03
4.400000D+01	-9.000000D+01	-9.000000D+01	6.129292D+00	1.314838D+04
VTF	CGF	BETAF	PSI	XFLW
VTR	CGL	PHI	GAMMA	LF LW
7.050000D+02	6.239495D+00	-9.000000D+01	9.000000D+01	1.627144D+03
7.050000D+02	0.0	-6.599953D+00	0.0	1.328966D+04
THEOF	AICF	B1TF	B1CF	DPW
THEOR	AICR	B1TR	B1CR	LFFW
1.569591D+01	-1.217324D+00	-2.500000D+00	-2.500000D+00	2.452204D+03
1.637186D+01	2.978511D+00	-2.500000D+00	-2.500000D+00	-4.276483D-12
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.603388D+01	-5.289134D-01	-1.395326D+00	4.277345D-01	7.003009D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.319782D+04	5.274881D+02	2.273361D+02	1.107676D+03	5.502291D+02
1.3337241D+04	6.642150D+02	1.316290D+02	2.048653D+03	3.550978D+02
QF	LFZ	YF	LF	RHPP
QR	DFX	MF	NF	RHPR
1.786475D+04	-2.452204D+03	2.688606D+03	2.688606D+02	8.980140D+02
2.058535D+04	1.786875D-29	2.942645D+03	-3.226328D+03	1.034771D+03
XR	L/DE	SHPTOI	NFF	NMLB
2.645756D+04	-2.068603D+00	2.032785D+03	2.033785D+03	2.212623D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	9.351788D-02	4.966844D-03	6.944083D-01	-4.126029D-02
5.841923D-02	9.492331D-02	5.723239D-03	6.981096D-01	-4.522556D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR	DFF	AOR
1.071132D-01	1.880580D+01	2.353723D-01	7.829815D-01	5.130284D+00
1.071044D-01	1.880310D+01	8.947077D-02	5.923965D+00	5.277028D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
8.589987D-01	-1.815467D+00	4.201223D+00	5.923965D+00	6.813850D+00
-6.233154D-01	3.319739D+00	5.819887D+00	4.576774D+00	7.291403D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
7.621111D+01	-7.750865D+00	2.689087D+02	2.613590D+02	2.008432D+00
7.6633229D+01	-9.823946D+00	2.6691942D+02	2.623767D+02	3.37749D+00

CASE 28

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90 RA		
5.622428D-01	9.321721D-02	3.036389D+00		
5.570753D-01	9.421884D-02	3.126393D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	UFF	RP
4.220467D+00	9.022345D+02	2.041272D+03	2.203429D-02	
4.265817D+00	1.039037D+03	2.042272D+03	5.354332D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 3.00000D+01 4.40000D+01	RC ALPHA 0.0 -9.00000D+01	GW ALFFF 2.43000D+04 -9.00000D+01	RHO THIETA 2.378000D-03 5.900262D+00	XF LW LF LW 9.659157D+02 1.269282D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 6.239495D+00 0.0	BETAF PHI -9.00000D+01 -3.591425D+00	PSI GAMMA 9.00000D+01 0.0	XR LW LR LW 1.759301D+03 1.271553D+04
THEOF THEOR 1.568754D+01 1.619115D+01	AICF AICR -7.273918D-01 1.901184D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 1.307062D+03 -4.102976D-12
THETAC 1.593935D+01	DELTAB -3.940627D-01	DELTIAS -8.655014D-01	DELTAR 2.821225D-01	DELTAC 6.929728D+00
TF TR 1.271827D+04 1.282181D+04	HF HR 5.349793D+02 6.173713D+02	YF YR 1.566248D+02 6.958898D+01	MHF MHR 1.284360D+03 1.886577D+03	LHF LHR 4.038144D+02 1.926169D+02
QF QR 1.835410D+04 2.036950D+04	LFZ DFX -1.307062D+03 7.619456D-30	YFY MF 1.433068D+03 1.568475D+03	LF NF 1.433068D+02 -1.719682D+03	RHPP RHPR 9.226124D+02 1.023921D+03
XR 2.543362D+04	L/DE -7.549792D+00	SHPTOT 2.046534D+03	WFF 2.047534D+03	NMLB 1.465177D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS F CTS R 9.039400D-02 9.084031D-02	CPSF CP5R 5.102896D-03 5.663227D-03	AMTF AMTR 6.719780D-01 6.759959D-01	LAMDAF LANDAR -4.364139D-02 -4.793904D-02
MUF MUR 7.173355D-02 7.173181D-02	VF VR 2.476005D+01 2.428357D+01	DFFR DFFR 2.567465D-01 1.183762D-01	DFF 1.005549D+00	A0F A0R 4.973748D+00 5.048914D+00
A1F A1R 6.341122D-01 -3.360858D-01	B1F B1R -2.092472D+00 3.062139D+00	BETAOF BETAOR 4.308172D+00 5.348558D+00	B18CF B18CR 5.578065D+00 4.676765D+00	A270F A270R 5.938983D+00 6.282732D+00
CAPVF CAPVR 5.092624D+01 5.145461D+01	ALPHAF ALPHAR -6.760446D+00 -1.063401D+01	BETAFN BETARN 2.694088D+02 2.695634D+02	ATIPF ATIPR 2.611341D+02 2.626639D+02	BPTPF BPTPR 2.186444D+00 3.080528D+00

CASE 19

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	VFF	NNF	
RMTF	0.0	0.0	0.0	0.0
RMTF	0.0	0.0	0.0	0.0
5.849514D-01		CTFP	A90F	
5.800985D-01		CTR	A90RA	
	8.998746D-02		3.532684D+00	
	9.014848D-02		3.561154D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.542818D+00		9.241552D+02	2.049622D+03	1.462971D-02
1.545579D+00		1.025467D+03	2.050622D+03	3.555019D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.064956D-03	5.702764D-02	8.230810D-02	5.621671D-01
-5.232525D-02	1.234309D+00	7.068620D-02	-1.665564D-01
-3.791396D-02	-1.242596D-01	-1.154917D-02	1.206839D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-9.941207D-02	-3.959713D-01	7.616952D-02	-5.516278D+00
4.500487D-01	2.033968D-01	-6.805268D-01	1.432549D+00
-4.223271D-01	-9.716231D-02	4.960104D-02	-1.344309D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
1.490785D-03	9.812043D-03	3.410587D-01	6.410472D-03
-9.647856D-03	-9.569029D-01	9.558806D-03	-3.071008D-02
9.404340D-04	-2.864959D-01	1.345849D-01	2.993494D-03
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.762063D-01	-1.449947D+00	2.285679D-02	3.105023D-01
-7.328735D-02	-5.670559D-02	9.460800D-01	-2.332809D-01
-1.919776D-02	-2.032903D-01	2.039541D-03	-6.110837D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
6.076614D-04	-8.403660D-01	-4.110827D-02	5.945926D-02
-1.130915D-02	1.548738D-01	4.311804D-01	-3.599814D-02
2.528432D-03	-5.062780D-02	-1.460189D-01	8.048250D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.364545D-03	4.326613D-03	5.676421D-02	1.104768D-03
-9.641315D-05	-2.135222D-01	1.655577D-02	-3.068926D-04
4.074123D-04	-6.930098D-02	1.749122D-01	1.296834D-03

LONGITUDINAL		μ	$\mu\nu$	μ	α	α	θ	THETAC
CTF	0.176D-04	0.124D-01	0.645D-04	0.205D-03	0.121D-02	0.401D-01		
CIR	0.126D-04	0.886D-02	0.608D-04	0.194D-03	0.120D-02	0.388D-01		
CHF	0.334D-05	0.236D-02	0.303D-05	0.963D-05	0.277D-03	0.156D-02		
CHF	0.340D-05	0.240D-02	0.324D-05	0.103D-04	0.167D-03	0.202D-02		
AIF	0.895D-03	0.631D+00	0.276D-03	0.878D-03	0.384D-01	0.186D+00		
AIR	0.911D-03	0.642D+00	0.257D-03	0.819D-03	0.406D-01	0.189D+00		
VFR	0.186D+00	0.749D+02	0.417D+00	0.133D+01	0.756D+01	0.151D+03		
VRR	0.733D-01	0.517D+02	0.385D+00	0.122D+01	0.756D+01	0.138D+03		
LF			0.174D+02	0.553D+02				
DF			0.613D-30	0.195D-29				
MF			-0.208D+02	-0.663D+02				

LATERAL-DIRECTIONAL

	v	β	p	r	a_l
CYF	-0.636D-05	-0.139D-04	-0.224D-03	-0.806D-04	0.553D-02
CYR	0.317D-05	0.101D-04	0.233D-03	0.159D-04	0.551D-02
B1F	-0.300D-03	-0.954D-03	-0.352D-01	-0.608D-02	0.304D-01
B1R	-0.239D-03	-0.761D-03	-0.374D-01	-0.494D-03	0.132D-01
YF	-0.372D+02	-0.118D+03			
LF	-0.372D+01	-0.118D+02			
NF	0.446D+02	0.142D+03			
CTF				0.432D-02	
CIR				-0.470D-02	

FORCE = 0.241446D+07

X	Z	M	Y	L	N	BICF	BICR	OMEGAF	OMEGAR
						0.171D+02	0.174D+02	0.0	0.0
						0.287D+01	0.161D+01	0.0	0.0
						-0.131D+01	-0.137D+01	0.0	0.0
						0.396D+00	-0.396D+00	0.0	0.0
						0.152D+00	-0.221D+00	0.0	0.0
						0.404D-01	0.347D-01	0.0	0.0
						CTF	0.112D-04	-0.651D-06	0.0
						CTR	-0.917D-05	0.168D-03	0.0
						CHF	-0.543D-02	-0.124D-07	0.0
						CHR	-0.112D-05	-0.547D-02	0.0
						AIF	0.324D-01	-0.497D-05	0.0
						AIR	-0.200D-03	-0.136D-01	0.0
						VFR	0.194D+00	0.598D-02	0.0
						VRR	0.564D-01	0.611D+00	0.0
						QF	-0.281D+00	0.136D-03	0.0
						QR	0.350D-03	0.325D+00	0.0
						QFU	QFP	QFDLB	QFDLTAC
						QFV	QFQ	QFDLS	QFBETA
						QFW	QFR	QFDLR	QFALPHA
						-0.163D-02	0.873D+00	0.726D+00	0.147D+01
						0.614D-02	0.146D+01	-0.191D-01	0.195D-01
						-0.862D-02	-0.400D+00	-0.294D-01	-0.274D-01
						QRU	QRP	QRDELB	QRDELTAC
						QRV	QRQ	QRDELS	QRBETA
						QRW	QRR	QRDELR	QRALPHA
						-0.344D-03	0.382D+00	-0.785D+00	0.158D+01
						0.247D-02	0.126D+01	-0.479D-02	0.786D-02
						-0.191D-02	0.620D+00	0.101D-01	-0.609D-02

V FE	RC ALPHA 0.0 -9.00000D+01	GW ALFF 2.430000D+04 -9.00000D+01	RHO THETA 2.378000D-03 5.865739D+00	XFLW LF LW LF LW 1.190978D+04
VTF VTR	CGF CGL 6.239495D+08 0.0	BETAF PHI -9.000000D+01 -2.827571D+00	PSI GAMMA 9.000000D+01 0.0	XRLW LR LW 5.276246D+03 1.153209D+04
THEOF THEOR	AICF AICR -1.189877D-01 1.024762D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 1.000292D+03 -3.663330D-12
THETAC	DELTAB 1.690503D+01	DELTAS -2.709387D-01	DELTAR 2.061041D-01	DELTAC 7.678318D+00
TF TR 1.258028D+04 1.266762D+04	HF HR 5.465058D+02 5.992792D+02	YF YR 1.3483468D+02 3.397116D+01	MHF MHR 1.934573D+03 1.742700D+03	LHF LHR 3.756793D+02 1.108034D+02
QF QR 2.303535D+04 2.448825D+04	LFZ DFX -1.000292D+03 2.915575D-30	YFY MF 1.096723D+03 1.200350D+03	LF NF 1.096723D+02 -1.316068D+03	RHPF RHPR 1.157927D+03 1.230960D+03
XR 2.514418D+04	L/DE 8.411440D-01	SHPTOT 2.488887D+03	WFF 4.489887D+03	NMLB 6.024370D-03
SIGOF SIGOR 5.841923D-02 5.841923D-02	CITSF CTSR 8.927621D-02 9.019774D-02	CPSF CPSR 6.404401D-03 6.808344D-03	AMTF AMTR 6.495228D-01 6.537560D-01	LAMDAF LAMDAR -5.726380D-02 -6.036278D-02
MUF MUR 3.589270D-02 3.589216D-02	VF VR 3.043097D+01 2.949142D+01	DFFR DFRF 3.884812D-01 2.954998D-01	DFF 1.416791D+00	A0F A0R 5.010904D+00 5.0.96362D+00
AIF AIR 5.910546D-01 -1.968684D-01	B1F B1R -2.334768D+00 2.829566D+00	BETAOF BETAOR 4.377885D+00 5.282285D+00	B180F B180R 5.588844D+00 4.8866834D+00	A270F A270R 5.569975D+00 5.846450D+00
CAPVF CAPVR 2.718483D+01 2.847412D+01	ALPHAF ALPHAR -2.143603D+01 -2.729392D+01	BETAFW BETAR 2.695350D+02 2.696566D+02	ATIPF ATIPR 2.610911D+02 2.628031D+02	BPTPF BPTPR 2.408420D+00 2.836407D+00

NADC-81118-60
Volume 4

PAGE 4

CASE 29

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	
RMTF		CTFP	A90F	
RMTR		CTR P	A90RA	
6.080453D-01		8.443600D-02	4.360060D+00	
6.033614D-01		8.175828D-02	4.395676D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	MMLB
	DELHPR	RHPR	WFF	RP
	0.0	1.157927D+03	2.488887D+03	6.024370D-03
	0.0	1.230960D+03	2.489887D+03	1.463922D+02
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA	GW AFFF	RHO THETA	XF LW LF LW
1.500000D+01	0.0	2.376000D+01	2.378000D+03	3.976935D+03
4.400000D+01	-9.000000D+01	-9.000000D+01	5.871198D+00	1.195445D+04
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.050000D+02	6.239495D+00	9.000000D+01	-9.000000D+01	5.261993D+03
7.050000D+02	0.0	2.366551D+00	0.0	1.153505D+04
THEOF THEOR	AICF AICR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.676450D+01	1.049683D+00	-2.500000D+00	-2.500000D+00	9.9577757D+02
1.705242D+01	-9.314228D+01	-2.500000D+00	-2.500000D+00	-4.341418D-12
THETAC	DELTAB	DELJAS	DELTAR	DELTAC
1.690846D+01	-2.252897D-01	6.564315D-01	-3.366035D-02	7.680976D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
1.258471D+04	5.916719D+02	4.324314D+01	1.738605D+03	9.981673D+01
1.2666679D+04	5.461812D+02	-3.986824D+01	1.421054D+03	-1.555355D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHPF RHPR
2.311899D+04	-9.957757D+02	-1.082720D+03	-1.082720D+02	1.162131D+03
2.443447D+04	2.902412D-30	1.194931D+03	1.299264D+03	1.228257D+03
XR	L'DE	SHPTOT	WFF	NMLB
2.514871D+04	8.403280D-01	2.490388D+03	2.491388D+03	6.020741D-03
SIGOF SIGOR	CTSF CTS'R	CPSF CP'SR	AMTF AMTR	LAMDAF LAMDAR
5.841923D-02	8.935128D-02	6.427654D-03	6.536920D-01	-5.710582D-02
5.841923D-02	8.993116D-02	6.793392D-03	6.490460D-01	-6.021016D-02
MUF MUR	VF VR	DFFR	DFF	AOF
3.590517D-02	3.049091D+01	3.888147D-01	1.416109D+00	5.023712D+00
3.590479D-02	2.954878D+01	2.958976D-01		5.072584D+00
A1F A1R	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
-1.612991D-01	2.822868D+00	5.193868D+00	4.829976D+00	5.709158D+00
-2.641409D-01	-2.306626D+00	5.294703D+00	4.796312D+00	5.692561D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIFF ATIPR	BPTPF BPTPR
2.713094D+01	-2.109273D+01	9.039025D+01	2.603187D+02	2.828684D+00
2.840684D+01	-2.699026D+01	9.028816D+01	2.627359D+02	2.321700D+00

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PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
6.033313D-01		CTFP	A90F	
		CTR P	A90RA	
6.086380D-01	8.475272D-02		4.278392D+00	
	8.177931D-02		4.485325D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DE1HPF	RHPPF	SHP1OT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	1.162131D+03	2.490388D+03	6.020741D-03	
0.0	1.228257D+03	2.491388D+03	1.463040D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V _{FE}	RC	GW	RHO	XF LW
3.00000D+01	ALPHA	ALFF	THETA	LF LW
4.40000D+01	0.0	2.43000D+04	2.37800D-03	8.084877D+02
	-9.00000D+01	-9.00000D+01	5.917542D+00	1.270789D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	6.239495D+00	9.00000D+01	-9.00000D+01	1.764100D+03
7.05000D+02	0.0	3.202860D+00	0.0	1.270840D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.578436D+01	1.684353D+00	-2.50000D+00	-2.50000D+00	1.299321D+03
1.611347D+01	-1.607285D+00	-2.50000D+00	-2.50000D+00	-4.305269D-12
THETAC	DELTAB	DELtas	DELTAR	DELTAC
1.594891D+01	-2.575213D-01	1.093156D+00	-4.504351D-02	6.937142D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.271880D+04	6.132668D+02	2.649403D+01	1.882800D+03	8.846091D+01
1.281914D+04	5.339751D+02	-3.611527D+01	1.275540D+03	-1.279586D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.864853D+04	-1.299321D+03	-1.412769D+03	-1.412769D+02	9.374126D+02
2.015372D+04	7.574329D-30	1.559186D+03	1.695323D+03	1.013075D+03
XR	L/DE	SHPTOT	WFF	NMLB
2.543426D+04	-7.650291D+00	2.050488D+03	2.051488D+03	1.462354D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPS R	AMTR	LAMDA R
5.841923D-02	9.063663D-02	5.184755D-03	6.759846D-01	-4.326053D-02
5.841923D-02	9.076223D-02	5.603237D-03	6.716464D-01	-4.756386D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR		AOR
7.176052D-02	2.481166D+01	2.566301D-01	1.000945D+00	5.002536D+00
7.175913D-02	2.433173D+01	1.184451D-01		5.029055D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
-1.718788D-01	3.057012D+00	5.119465D+00	4.792771D+00	6.141177D+00
-2.218869D-01	-2.070022D+00	5.235907D+00	4.780121D+00	6.093112D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARN	ATIPR	BPTPR
5.090851D+01	-6.400816D+00	9.052932D+01	2.603281D+02	3.061841D+00
5.141687D+01	-1.028818D+01	9.039085D+01	2.627781D+02	2.081880D+00

CASE 20

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.799146D-01		CTFP	A90F	
5.856157D-01		CTR P	A90RA	
		9.009429D-02	3.637278D+00	
		9.009794D-02	3.673480D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.544650D+00		9.389573D+02	2.053577D+03	1.460155D-02
1.544712D+00		1.014620D+03	2.054577D+03	3.548176D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
7.552682D+02	1.773500D+04	1.157010D+05	1.067690D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
4.170723D-03	-5.2240129D-03	4.136734D-02	5.648593D-01
-2.004050D-02	1.301570D+00	-7.427423D-02	-6.379089D-02
3.829478D-02	-8.666272D-02	-5.512177D-02	1.218961D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.149208D-01	2.255199D-01	8.041535D-02	-5.516162D+00
2.153646D-01	2.795527D-01	6.767404D-01	6.855269D-01
-4.218791D-01	-1.161551D-01	-5.940636D-02	-1.342883D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
1.969477D-03	1.329667D-02	3.444767D-01	4.721580D-03
-9.864291D-03	-8.387250D-01	-9.505294D-03	-3.139901D-02
8.350371D-04	-2.934015D-01	-1.301692D-01	2.658006D-03
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-3.732893D-01	-1.456122D+00	-3.869828D-03	-2.714658D-01
-5.260191D-02	3.763395D-02	9.405838D-01	-1.674371D-01
-2.131444D-02	-1.6533903D-01	-1.370256D-03	6.784598D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-7.536524D-04	-8.240349D-01	-3.600758D-02	-6.943494D-02
-7.725101D-03	1.605516D-01	4.284409D-01	-2.458976D-02
-1.431955D-03	-2.082593D-02	-1.486253D-01	-4.558055D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
3.677259D-03	-7.744621D-03	3.975279D-02	-3.954536D-03
3.749194D-04	-1.954065D-01	1.700658D-02	1.193405D-03
-4.677837D-04	-8.347217D-02	1.764437D-01	-1.489002D-03

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.216D-04	0.152D-01	0.644D-04	0.205D-03	0.104D-02	0.400D-01
CTR	0.153D-04	0.108D-01	0.609D-04	0.194D-03	0.101D-02	0.389D-01
CHF	0.369D-05	0.260D-02	0.346D-05	0.110D-04	0.275D-03	0.204D-02
CHR	0.341D-05	0.240D-02	0.268D-05	0.852D-05	0.186D-03	0.169D-02
AIF	0.928D-03	0.654D+00	0.291D-03	0.925D-03	0.352D-01	0.191D+00
AIR	0.882D-03	0.622D+00	0.247D-03	0.787D-03	0.345D-01	0.184D+00
VFR	0.130D+00	0.919D+02	0.417D+00	0.133D+01	0.699D+01	0.151D+03
VRR	0.907D-01	0.639D+02	0.385D+00	0.123D+01	0.682D+01	0.138D+03
LF			0.172D+02	0.547D+02		
DF			-0.200D-30	-0.638D-30		
NF			-0.206D+02	-0.657D+02		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.230D-05	-0.731D-05	0.225D-03	-0.764D-04	0.549D-02
CYR	0.265D-05	0.844D-05	0.234D-03	-0.247D-04	0.550D-02
BIF	0.900D-06	0.287D-03	0.366D-01	0.683D-02	0.121D-01
BIR	0.120D-03	0.382D-03	0.366D-01	0.111D-02	0.275D-01
YF	-0.278D+02	-0.884D+02			
LF	-0.278D+01	-0.884D+01			
NF	0.333D+02	0.106D+03			
CTF			-0.434D-02		
CTR			0.472D-02		

FORCE = 0.241446D+07

BICF	BICR	OMEGA F	OMEGA R		
0.172D+02	0.174D+02	0.0	0.0		
0.237D+01	0.212D+01	0.0	0.0		
-0.125D+01	-0.131D+01	0.0	0.0		
0.388D+00	-0.402D+00	0.0	0.0		
0.136D+00	-0.236D+00	0.0	0.0		
0.614D-01	0.535D-01	0.0	0.0		
 X	 CTF	 0.178D-03	 0.838D-06	 0.0	 0.0
Z	CTR	-0.142D-04	0.152D-05	0.0	0.0
M	CHF	-0.544D-02	0.906D-07	0.0	0.0
Y	CHR	-0.150D-05	-0.547D-02	0.0	0.0
L	AIF	-0.122D-01	0.154D-04	0.0	0.0
N	AIR	0.225D-03	0.296D-01	0.0	0.0
	VFR	0.813D+00	-0.973D-02	0.0	0.0
	VRR	-0.185D+00	-0.113D+00	0.0	0.0
	QF	0.331D+00	-0.140D-03	0.0	0.0
	QR	-0.194D-02	-0.297D+00	0.0	0.0
 QFU	 QFP	 QFDEL B	 QFDelta C	 QFBETA	 QFALPHA
QFV	QFQ	QFDELS	QFDelta S	QFDelta R	QFDelta L
QFW	QFR	QFDELR	QFDelta R		
-0.207D-02	-0.387D+00	0.731D+00	0.148D+01		
-0.269D-02	0.141D+01	0.179D-01	-0.856D-02		
-0.837D-02	-0.738D+00	0.264D-01	-0.266D-01		
 QRU	 QRP	 QRDEL B	 QRDelta C	 QRBeta A	 QRAlpha A
QRV	QRQ	QRDELS	QRDelta S	QRDelta R	QRDelta L
QRW	QRR	QRDELR	QRDelta R		
0.510D-04	-0.486D+00	-0.783D+00	0.158D+01		
-0.429D-02	0.124D+01	0.569D-02	-0.137D-01		
-0.242D-02	0.677D+00	-0.115D-01	-0.770D-02		

FE	RC	GW	RHO	XF LW
4.500000D+01	0.0	2.430000D+04	2.378000D-03	1.059398D+03
4.400000D+01	-9.000000D+01	-9.000000D+01	6.190122D+00	1.318196D+04
VIF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	6.239495D+00	9.000000D+01	-9.000000D+01	1.671753D+03
7.050000D+02	0.0	6.188287D+00	0.0	1.327322D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.579638D+01	2.269486D+00	-2.500000D+00	-2.500000D+00	2.444239D+03
1.619956D+01	-2.516276D+00	-2.500000D+00	-2.500000D+00	-4.262593D-12
THETAC	DELTAB	DELTAIS	DELTAR	DELTAC
1.599797D+01	-3.154612D-01	1.590942D+00	-1.361802D-01	6.975171D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.320904D+04	6.384142D+02	-1.262333D+01	2.012915D+03	-1.908023D+00
1.3336766D+04	5.280709D+02	-6.502263D+01	1.094528D+03	-2.080338D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.814885D+04	-2.444239D+03	-2.657653D+03	-2.657653D+02	9.122951D+02
2.001862D+04	1.781071D-29	2.933087D+03	3.189183D+03	1.006283D+03
XR	L'DE	SHTOT	WFF	NMLB
2.646563D+04	-2.049259D+00	2.018579D+03	2.019579D+03	2.228188D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSFR	CPSRF	AMTR	LANDAR
5.841923D-02	9.336432D-02	5.045832D-03	6.983077D-01	-4.058341D-02
5.841923D-02	9.448184D-02	5.565674D-03	6.939271D-01	-4.453994D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF	DFR	AOR
1.071940D-01	1.884319D+01	2.353946D-01	7.759599D-01	5.140728D+00
1.071862D-01	1.882991D+01	8.948498D-02		5.224601D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
-5.539804D-02	3.269586D+00	5.154380D+00	5.017258D+00	6.991486D+00
-3.612263D-01	-1.772804D+00	5.542074D+00	4.801744D+00	7.034308D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARM	ATIPR	BPTPR
7.619990D+01	-7.361872D+00	9.102498D+01	2.604446D+02	3.270056D+00
7.660381D+01	-9.440776D+00	9.075687D+01	2.626388D+02	1.809231D+00

CASE 31

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
5.568289D-01	9.345529D-02	2.965657D+00	
5.627531D-01	9.410231D-02	3.205381D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
4.231247D+00	9.165264D+02	2.027070D+03	2.218858D-02
4.260541D+00	1.010544D+03	2.028070D+03	5.391825D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-40 kt	0 ft/min	0 deg	X
	-20			
	0			X
	20			
	40			X
	60			
	80			X
	100			
	120			X
	140			
	146			X

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
-4.00000D+01	0.0	1.75000D+04	2.37800D-03	2.880891D+03
4.40000D+01	1.880125D+02	1.997977D+02	8.079684D+00	7.254980D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	-2.190042D+01	0.0	0.0	1.509366D+01
7.05000D+02	0.0	-2.566568D-01	0.0	1.016448D+04
THE0F	AICF	B1TF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFFW
1.503167D+01	-5.536879D-01	-2.500000D+00	-2.500000D+00	2.957045D+02
1.342252D+01	-6.618723D-01	-2.500000D+00	-2.500000D+00	4.587069D+02
THE1AC	DELIAB	DELTIAS	DELTAR	DELTAC
1.422710D+01	1.259119D+00	3.651204D-02	-2.540144D-01	5.602400D+00
TF	NF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.805208D+03	1.140353D+02	-1.029969D+02	6.289863D+02	-6.259929D+02
1.0163316D+04	1.645190D+02	-1.526280D+02	6.421039D+02	-7.525902D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
1.517297D+04	-4.954468D+02	3.052968D+01	1.078802D+02	7.627055D+02
1.077117D+04	-2.288791D+02	2.907438D+03	-1.885536D+02	5.414386D+02
XR	L/DE	SHPTOT	WF	NMLB
2.554611D+02	-1.497406D+00	1.404144D+03	1.405144D+03	2.846683D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMIR	LAMDAR
5.841923D-02	5.522946D-02	4.218464D-03	6.910822D-01	-5.598734D-02
5.841923D-02	7.161574D-02	2.994654D-03	6.904397D-01	-2.546805D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
9.579409D-02	1.149990D+01	2.229570D-07	1.037832D+00	3.006655D+00
9.581142D-02	1.676079D+01	1.771775D+00		3.754714D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
-1.020696D+00	1.017067D+00	4.038230D+00	1.954996D+00	4.403075D+00
-1.043351D+00	1.221409D+00	4.748210D+00	2.668276D+00	4.671487D+00
CAPVR	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARN	ATIPR	BPTPR
7.309635D+01	-2.249464D+01	1.799654D+02	1.774918D+02	1.440918D+00
6.755760D+01	-1.012491D+00	1.799654D+02	1.799691D+02	1.606369D+00

PROG. A97 EP0428D2

PAGE 5

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RHIF	0.0	0.0	0.0	0.0
RHTR	0.0	0.0	0.0	0.0
5.705271D-01		CTFP	A90F	
5.684890D-01		CTR	A90RA	
		5.143516D-02	2.021579D+00	
		7.206246D-02	2.031715D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0		7.627055D+02	1.404144D+03	-2.8466683D-02
0.0		5.414386D+02	1.405144D+03	-4.981696D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.729931D-02	1.1971114D+00	2.651474D-01	9.291395D-01
-2.106609D-03	1.669811D-01	1.242382D-02	-3.434339D-03
5.421065D-02	-2.141730D-01	-3.104965D-02	8.837794D-02
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
2.863537D-01	-6.626510D+00	-1.179601D+00	-6.277362D+00
6.881242D-03	5.745083D+00	-3.924076D-02	1.121827D-02
-4.898427D-01	8.121438D-01	1.271655D-02	-7.985754D-01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-7.089010D-03	5.592387D-01	4.590261D-01	-1.113223D-01
1.864217D-04	-1.292977D+00	5.284602D-03	3.039175D-04
-1.639294D-02	-3.143355D-01	-3.108639D-03	-2.672490D-02
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-7.3422905D-04	-1.352982D+00	-9.352099D-02	3.872779D-02
5.599968D-02	3.889070D-01	8.812440D-01	9.129454D-02
3.711154D-03	-8.138381D-02	-1.743012D-01	6.050180D-03
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
4.261297D-04	-7.562409D-01	-7.104212D-02	4.473337D-03
-1.359740D-03	2.693975D-01	3.640342D-01	-2.216742D-03
7.766747D-04	-2.554823D-02	-1.670007D-01	1.266515D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.520273D-04	2.141774D-02	3.651982D-02	-2.442983D-03
-3.118371D-04	-1.441128D-01	1.410526D-02	-5.083784D-04
7.214173D-04	-4.373574D-02	1.235016D-01	1.176104D-03

LONGITUDINAL	U	MU	W	ALPHA	Q	THETAC
CTF	-0.400D+04-0.282D+01	0.240D+04	0.390D+04-0.222D+02	0.223D+01		
CTR	-0.268D+04-0.159D+01	0.789D+04	0.129D+03	0.913D+03	0.427D+01	
CHF	0.982D+06	0.692D+03	0.537D+06	0.876D+06	0.823D+04-0.193D+03	
CHR	0.155D+05	0.109D+02	0.756D+06	0.123D+05	0.213D+03-0.219D+03	
AIF	-0.513D+03-0.362D+00	0.948D+06	0.155D+05	0.663D+01	0.197D+00	
AIR	-0.459D+03-0.324D+00	0.184D+03	0.300D+03	0.765D+01	0.260D+00	
VFR	-0.412D+01-0.291D+02	0.121D+00	0.197D+00	0.901D+01	0.554D+02	
VRR	0.106D+00	0.762D+02	0.379D+00	0.619D+00	0.411D+01	0.160D+03
LF		0.199D+02	0.325D+02			
DF		0.180D+00	0.294D+00			
NF		-0.707D+02	-0.115D+03			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.149D+05-0.243D+05	-0.869D+04-0.254D+04	0.336D+02		
CYR	0.176D+05	0.287D+05	0.218D+03-0.711D+05	0.429D+02	
BLF	0.659D+03	0.107D+02	0.737D+01	0.171D+01-0.103D+01	
BIR	-0.657D+03-0.107D+02	-0.736D+01-0.252D+02	-0.102D+01		
YF	0.383D+02	0.624D+02			
LF	0.663D+02	0.108D+03			
NF	-0.138D+02-0.225D+02		-0.200D+03	0.109D+03	
CTF					
CIR					

FORCE = 0.241446D+07

		BICF	BICR	OMEGAF	OMEGAR
X	Z	0.189D+02	0.198D+02	0.0	0.0
M	Y	-0.235D+02	-0.194D+01	0.0	0.0
L	N	0.151D+01	-0.428D+01	0.0	0.0
		-0.194D+00	0.228D+00	0.0	0.0
		-0.990D-01	0.276D-01	0.0	0.0
		0.531D-01	0.423D-01	0.0	0.0
CTF		0.604D-02	-0.314D-02	0.0	0.0
CTR		-0.717D-06	0.594D-02	0.0	0.0
CHF		-0.330D-02	-0.377D-04	0.0	0.0
CHR		0.648D-06	-0.425D-02	0.0	0.0
CAIF		0.105D+01	-0.958D-02	0.0	0.0
AIR		-0.204D-03	0.104D+01	0.0	0.0
VFR		0.199D+02	-0.129D+02	0.0	0.0
VRR		0.517D-01	-0.223D+02	0.0	0.0
QF		0.232D+01	-0.128D+01	0.0	0.0
QR		-0.310D-03	-0.200D+01	0.0	0.0
QFU		QFP	QFDELB	QFDELT	
QFY		QFQ	QFDELS	QFBETA	
QFW		QFR	QFDELR	QFALPHA	
-0.143D-01		0.269D+00	0.778D+00	0.116D+00	
-0.188D-03		-0.582D+00	0.849D-02	-0.306D-02	
0.997D-02		-0.554D+00	0.197D-02	0.163D-02	
QRU		QRP	QRDELB	QRDELT	
QRV		QRQ	QRDELS	QRFBETA	
QRW		QRR	QRDELR	QRFALPHA	
0.115D-01		0.297D+00	-0.446D+00	0.904D+00	
0.514D-03		-0.244D+00	-0.628D-02	0.837D-02	
-0.256D-01		0.344D+00	0.108D-01	-0.417D-01	

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
-2.000000D+01	0.0	1.750000D+04	2.378000D+03	4.584194D+03
4.400000D+01	1.866930D+02	2.233806D+02	6.718622D+00	6.250449D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	0.0	-3.643666D+02
7.050000D+02	0.0	-2.228830D-01	0.0	1.020254D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.531319D+01	-7.799877D-02	-2.500000D+00	-2.500000D+00	1.217595D+02
1.441513D+01	-2.874927D-01	-2.500000D+00	-2.500000D+00	4.540756D+02
THETAC	DELTAB	DELTIAS	DELIAR	DELTAC
1.486416D+01	7.027024D-01	8.012039D-02	-8.605431D-02	6.096249D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.747876D+03	2.310103D+02	-2.506770D+01	1.108482D+03	-1.964160D+02
1.020435D+04	3.096943D+02	-8.179629D+01	1.069687D+03	-4.236670D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.600469D+04	-4.651721D+02	1.107032D+01	4.735515D+01	8.045138D+02
1.412313D+04	-6.800755D+01	1.533718D+03	-1.854486D+02	7.099326D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.063113D+02	-6.630450D-01	1.614446D+03	1.615446D+03	1.238048D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	5.507107D-02	4.449702D-03	6.603635D-01	-6.061106D-02
5.841923D-02	7.253927D-02	3.926581D-03	6.599121D-01	-3.831718D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
4.785570D-02	1.637029D+01	1.2028490D+00	1.274724D+00	3.055793D+00
4.791250D-02	2.719517D+01			3.870044D+00
AIF	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
-1.799944D+00	3.197282D-01	4.865490D+00	1.248002D+00	3.832336D+00
-1.737380D+00	6.871201D-01	5.645144D+00	2.129904D+00	4.309020D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVK	ALPHAR	BETARW	ATIPR	BPTPR
4.279396D+01	-3.796483D+01	1.799741D+02	1.753930D+02	1.828121D+00
3.377880D+01	3.070028D-01	1.799741D+02	1.779556D+02	1.868321D+00

PR06. A97 EP062880TP2

PAGE 5

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
6.021214D-01	4.431340D-02	2.696598D+00	
5.999974D-01	7.233230D-02	2.912777D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
0.0	8.045138D+02	1.614446D+03	-1.238048D-02
0.0	7.099326D+02	1.615446D+03	-2.166584D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 2

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
0.0	0.0	1.750000D+04	2.378000D-03	7.801588D+03
4.400000D+01	0.0	2.700000D+02	5.628770D+00	3.537988D+02
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	0.0	1.034454D+04
7.050000D+02	0.0	-1.257153D-01	0.0	4.690701D+02
THE0F	AICF	B1FF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFFW
1.378817D+01	1.306348D+00	-2.500000D+00	-2.500000D+00	-3.022563D-14
1.543089D+01	7.888940D-01	-2.500000D+00	-2.500000D+00	-6.603018D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.460953D+01	-1.2853379D+00	1.718001D-01	4.197298D-01	5.898860D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.801588D+03	3.537988D+02	1.743294D+02	1.581702D+03	7.687610D+02
1.034454D+04	4.690701D+02	1.348653D+02	1.584988D+03	4.984434D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
1.236818D+04	-6.603018D+02	-1.476195D-14	-7.469704D-14	6.217162D+02
1.761831D+04	-3.022563D-14	-6.603018D+02	4.114649D-13	8.856264D+02
XR	L/DE	SHP10T	WFF	NMLB
1.733795D+03	0.0	1.607343D+03	1.608343D+03	0.0
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTS R	CPS R	AMTR	LANDAR
5.841923D-02	5.541274D-02	3.438663D-03	6.327714D-01	-6.376034D-02
5.841923D-02	7.341213D-02	4.98330D-03	6.324918D-01	-5.197989D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
4.194738D-19	2.915526D+01	1.406733D-01	1.299000D+00	2.960580D+00
1.014541D-18	3.254405D+01	5.209670D-02		4.056661D+00
A1F	B1F	BETA0F	B180F	A270F
A1R	B1R	BETA0R	B180R	A270R
2.568999D+00	1.248301D+00	4.348611D-01	5.536166D+00	2.839796D+00
2.574339D+00	7.281369D-01	1.513381D+00	6.636064D+00	4.008323D+00
CAPVF	ALPHAF	BETAFW	ATIFF	BPIPF
CAPVR	ALPHAR	BETARW	ATIPR	BPIPR
1.695758D+00	2.700000D+02	0.0	-6.931001D+00	2.856223D+00
4.101367D+00	2.700000D+02	0.0	-4.425661D+00	2.675333D+00

CASE 2

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	CTRP	A90F	
RMTR	2.508305D-03	A90RA	2.782953D+00	
6.289577D-01	3.325536D-03		3.941413D+00	
6.284868D-01				

NON UNIFORM DOWNWASH POWER CORRECTIONS

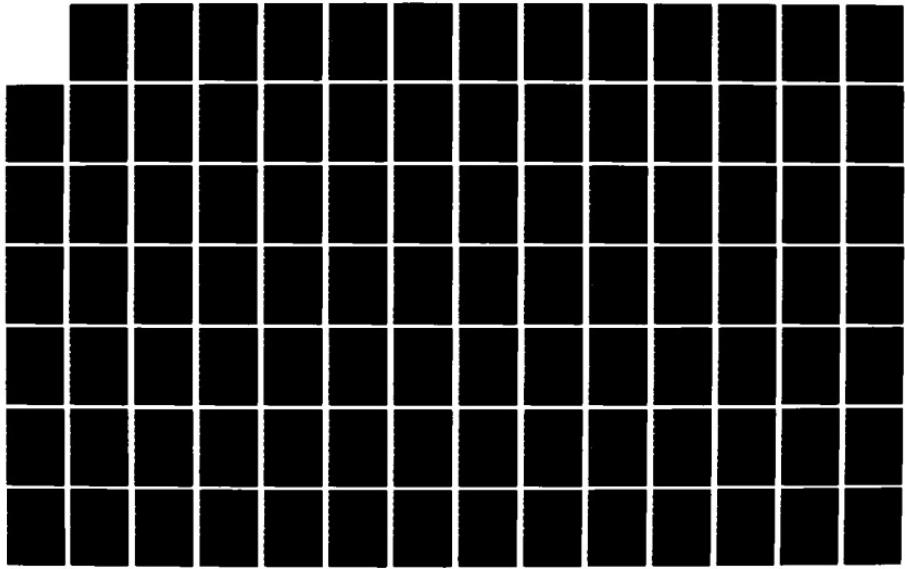
	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	6.217162D+02		1.607343D+03	0.0
0.0	8.856264D+02		1.608343D+03	0.0

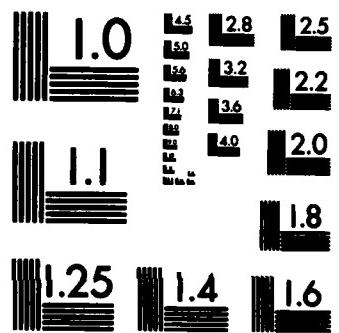
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AD-A134 323 HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E 3/6
VOLUME 4(U) BOEING VERTOL CO PHILADELPHIA PA 03 OCT 83
NADC-81118-68-VOL-4

UNCLASSIFIED

F/G 1/2 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
5.439174D+02	1.499900D+04	1.092210D+05	1.0332000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.021011D-02	-3.610433D+00	7.333307D-02	7.746122D-01
-2.315375D-04	-8.566049D-01	3.925218D-03	-7.370068D-04
1.121616D-01	-6.525104D-02	-3.127416D-02	3.570214D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.224011D-02	4.451367D+01	1.529480D-01	-7.605660D+00
1.068103D-03	7.97778D-01	-3.742574D-03	3.399877D-03
-1.323790D+00	-2.450505D-01	8.171601D-03	-4.213754D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-9.686298D-04	3.758217D+00	3.306955D-01	7.878240D-02
-1.153540D-03	-5.979123D-01	-3.006249D-04	-3.671831D-03
-7.430513D-02	-2.287806D-01	3.306827D-03	-2.365206D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-7.415758D-04	-1.933836D-02	7.073367D-02	3.772779D-02
-2.908590D-01	1.597938D-01	8.950699D-01	-9.258329D-01
-1.155768D-02	-1.812838D-01	-2.081818D-01	-3.678923D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-3.460281D-04	-4.748266D-01	-2.194434D-02	-1.341424D-03
-2.840438D-03	-1.880527D-01	3.699475D-01	9.041394D-03
-2.298579D-04	-4.914990D-02	-1.792157D-01	-7.316603D-04
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
5.668288D-05	1.457897D-01	4.341800D-02	-4.246771D-06
-1.491721D-03	-1.606447D-01	1.224344D-02	-4.748294D-03
-3.799972D-03	-4.425430D-02	1.254935D-01	-1.209569D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.343D-05-0	242D-02	0.340D-04	0.108D-03-0	774D-03	0.393D-01
CTR	-0.128D-05-0	903D-03	0.278D-03	0.886D-03	0.594D-03	0.400D-01
CHF	0.114D-05 0	807D-03	0.174D-05	0.554D-05-0	135D-03	0.181D-02
CHR	0.199D-05 0	140D-02	0.126D-04	0.402D-04-0	116D-03	0.185D-02
A1F	0.908D-02 0	640D+01	0.909D-02	0.289D-01-0	725D-01	0.511D-02
A1R	0.906D-02 0	639D+01	0.910D-02	0.290D-01-0	752D-01	0.501D-02
VFR	-0.948D-01-0	668D+02	0.559D+00	0.178D+01-0	124D+02	0.184D+03
VRR	-0.539D-01-0	380D+02	0.272D+01	0.866D+01-0	900D+01	0.149D+03
LF		-0.323D+02-0	103D+03			
DF		-0.148D-14-0	470D-14			
NF		-0.323D+02-0	103D+03			

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.137D-05-0	436D-05-0	0.907D-04-0	465D-04	0.465D-04	0.334D-02
CYR	0.202D-05 0	643D-05-0	0.864D-04-0	570D-05	0.570D-05	0.444D-02
B1F	0.908D-02 0	289D-01-0	0.710D-01-0	160D-01	0.160D-01	0.103D+01
B1R	-0.907D-02-0	289D-01	0.755D-01	840D-03	0.840D-03	0.103D+01
YF	-0.150D+03-0	478D+03				
LF	0.135D+03 0	430D+03				
NF	-0.150D+03-0	478D+03				
CTF				0.121D-04		
CTR				-0.8826D-04		

FORCE = 0.241446D+07

OMEGAR		OMEGAAT		QRDELTA		QRDELTA	
BICF	BICR	0.196D+02	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.146D+02	0.263D+01	0.252D+01	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.263D+01	0.954D+00	0.110D+01	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.954D+00	0.256D+00	0.421D+00	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.256D+00	0.113D+00	0.214D+00	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.113D+00	0.199D-01	0.369D-01	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
0.199D-01	-0.379D-04	-0.373D-05	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.379D-05	-0.422D-05	-0.329D-04	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.422D-05	-0.335D-02	-0.517D-06	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.335D-02	-0.806D-06	-0.445D-02	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.806D-06	-0.193D+01	-0.220D-03	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.193D+01	-0.293D-03	-0.193D+01	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.293D-03	-0.303D+00	-0.777D-01	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.303D+00	-0.149D+00	-0.163D+00	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.149D+00	-0.221D+00	-0.252D-02	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.221D+00	-0.319D-02	-0.239D+00	0.0	QFDelta	QFBETA	QRDELTA	QRBETA
-0.319D-02	QFU	QFP	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QFU	QFY	QFQ	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QFY	QFW	QFR	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QFW	QFR	QFR	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QFR	QFR	QFR	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QFR	QRU	QRP	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QRU	QRV	QRQ	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QRV	QRW	QRQ	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA
QRW	QRW	QRQ	QFDelta	QFBETA	QRDELTA	QRBETA	QRDELTA

CASE 2

PAGE 3

V FE 2.00000D+01 4.40000D+01	RC ALPHA 0. 4.352175D+00	GW ALFF 1.750000D+04 -3.569400D+01	RHO THETA 2.37800D-03 4.406784D+00	XF LW LF LW 2.412275D+02 7.594563D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0. 0.	BETAF PHI 0. -9.312288D-02	PSI GAMMA -6. 0.0	XR LW LR LW 5.173057D+03 8.818706D+03
THEOF THEOR 1.275265D+01 1.602345D+01	AICF AICR 2.213348D+00 1.451460D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.910347D+01 -3.146936D+02
THETAC 1.438805D+01	DELTAB -2.559310D+00	DELTAS 2.544679D-01	DELTAR 7.365209D-01	DELTAC 5.727169D+00
TF TR 7.585534D+03 1.020392D+04	HF HR 4.418713D+02 6.403245D+02	YF YR 2.988103D+02 2.795495D+02	MHF MHR 1.981993D+03 2.192087D+03	LHF LHR 1.451293D+03 1.034271D+03
QF QR 9.784070D+03 1.937251D+04	LFZ DFX -3.108183D+02 6.287677D+01	YFY MF 9.635795D+00 -1.869837D+03	LF HF 3.927012D+01 -1.337204D+02	RHPP RHPR 4.918196D+02 9.738054D+02
XR 7.227609D+01	L/DE 6.884381D-01	SHPTOT 1.565625D+03	WF WFF 1.566625D+03	NMLB 1.276630D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS'R 5.400696D-02 7.194608D-02	CPSF CP'SR 2.720215D-03 5.386041D-03	AMTF AMTR 6.630895D-01 6.648476D-01	LAMDAF LAMDAR -3.425792D-02 -6.237306D-02
MUF MUR 4.771993D-02 4.786204D-02	VF VR 2.110955D+01 2.120892D+01	DFFR DFRF 1.003710D+00 1.469905D-04	DFF DFF 1.264722D+00	AOF AOF 2.804336D+00 4.031735D+00
A1F AIR 3.219767D+00 3.561486D+00	B1F B1R 2.357063D+00 1.679540D+00	BETAOF BETAOR -4. 4.	B180F B180R 6.015615D+00 7.578774D+00	A270F A270R 3.043873D+00 4.961231D+00
CAPVF CAPVR 3.377908D+01 4.069471D+01	ALPHAF ALPHAR -5. -3.	BETAFW BETARW -3. 3.	ATIPF ATIPR -1. 9.	BPTPF BPTPR 3.990319D+00 3.937644D+01

CASE 2

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0
RNTF	CTFP	A90F		
RMTR	CTR P	A90RA		
5.981628D-01	5.384268D-02	1.891991D+00		
5.973563D-01	6.252140D-02	3.306102D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	6.918196D+02	1.565625D+03	1.276630D-02	
0.0	9.738054D+02	1.566625D+03	2.236102D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 3

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
4.400000D+01	0.0	1.750000D+04	2.378000D-03	3.411164D+02
4.400000D+01	2.978253D+00	-9.086354D+00	3.025897D+00	7.453887D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	-6.290463D-03	2.707131D+03
7.050000D+02	0.0	-1.215772D-01	0.0	9.867202D+03
THEOF	AICF	B1CF	DFW	
THEOR	AICR	B1CR	LFFW	
1.197324D+01	1.972777D+00	-2.500000D+00	-2.500000D+00	2.296606D+02
1.524359D+01	1.303634D+00	-2.500000D+00	-2.500000D+00	-1.839083D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.360842D+01	-3.075386D+00	2.231578D-01	6.568964D-01	5.122802D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.444395D+03	5.0707059D+02	2.624367D+02	2.277784D+03	1.395946D+03
1.020052D+04	7.998113D+02	2.558391D+02	2.668148D+03	1.059392D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
7.859716D+03	-1.717274D+02	3.066025D+01	9.143021D+01	3.950873D+02
1.661850D+04	2.389057D+02	-1.923081D+03	7.081304D+01	8.353682D+02
XR	L/DE	SHPTOT	WFF	HMLB
2.586889D+02	1.655188D+00	1.330456D+03	1.331456D+03	3.004231D-02
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LANDAR
5.841923D-02	5.291531D-02	2.185197D-03	6.930470D-01	-2.827694D-02
5.841923D-02	7.245275D-02	4.620356D-03	6.952054D-01	-5.583485D-02
MUF	VF	DFRF	DFF	A0F
MUR	VR	DFRF		A0R
9.520627D-02	1.226077D+01	1.595152D+00	1.0466856D+00	2.663318D+00
9.559041D-02	1.505907D+01	2.713882D-01		4.002334D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
3.700909D+00	2.267126D+00	-1.061775D+00	6.336097D+00	3.244188D+00
4.336290D+00	1.720345D+00	-3.642117D-01	8.297377D+00	5.488982D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
6.755760D+01	-6.521747D+00	3.600000D+02	-2.820838D+00	4.340113D+00
7.163709D+01	-1.982530D+01	3.600000D+02	3.145433D-01	4.665083D+00

CASE 3

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR P	A90RA	
5.687133D-01	5.284534D-02	1.210328D+00	
5.673381D-01	6.995486D-02	2.506946D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	MHLB
DELHPR	RHPR	WFF	RP
1.897078D+00	3.969844D+02	1.3348664D+03	2.994317D-02
2.511288D+00	8.378795D+02	1.335864D+03	5.240055D+02

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.011818D-02	6.155997D-01	8.753752D-02	3.940467D-01
-1.560935D-04	1.065172D+00	2.883691D-03	-1.054986D-02
4.307410D-02	-5.032311D-02	-3.004122D-02	2.911239D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.427148D-01	-6.331162D+00	1.017117D+00	-6.758644D+00
5.840777D-03	-1.119131D+00	-1.201983D-02	3.947591D-01
-6.651748D-01	-8.5363315D-01	1.664685D-02	-4.495701D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-6.966980D-03	-3.898694D-01	4.174969D-01	2.242099D-01
-1.836657D-03	-1.263261D+00	-2.047161D-03	-1.239850D-01
1.858656D-02	-2.531936D-01	1.338735D-03	1.256205D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-8.749256D-04	-1.540195D+00	1.626134D-01	8.340320D-02
-7.302748D-02	-1.056330D-01	8.665713D-01	-4.935690D+00
6.424552D-03	-2.350318D-01	-2.264606D-01	4.342146D-01
LU	LP	LDELB	LDELTAC
LY	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.009792D-03	-8.276141D-01	1.939171D-02	1.528989D-02
-8.793365D-03	7.856929D-02	3.638563D-01	-5.943150D-01
1.167606D-03	-6.638340D-02	-1.810249D-01	7.891469D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
3.846322D-04	3.870651D-02	3.457560D-02	6.817189D-04
-6.174667D-04	-1.533110D-01	1.018226D-02	-4.173257D-02
1.053461D-03	-3.541053D-02	1.212591D-01	7.119999D-02

LONGITUDINAL		U	MU	W	ALPHA	Q	THETAC
CTF	0.532D-05	0.375D-02	0.846D-04	0.572D-02	-0.147D-02	0.428D-01	
CTR	0.255D-04	0.186D-01	0.581D-04	0.393D-02	0.176D-02	0.260D-01	
CHF	0.148D-05	0.988D-03	0.625D-05	0.423D-03	0.261D-03	0.353D-02	
CHR	0.417D-05	0.294D-02	0.506D-05	0.342D-03	0.109D-04	0.286D-02	
AIF	0.290D-03	0.204D+00	0.276D-03	0.186D-01	0.753D-01	0.261D+00	
AIR	0.514D-03	0.362D+00	0.205D-03	0.139D-01	0.699D-01	0.224D+00	
VFR	-0.144D+00	0.162D+03	0.340D+00	0.230D+02	0.638D+01	0.162D+03	
VRF	-0.602D-01	0.425D+02	0.231D+00	0.156D+02	0.761D+01	0.641D+02	
LF		0.171D+02	0.115D+04				
DF		0.373D+00	0.252D+02				
NF		0.114D+03	0.773D+04				

LATERAL-DIRECTIONAL

		V	BETA	P	R	AIC
CYF	-0.116D-05	0.781D-04	0.146D-03	0.508D-04	0.317D-02	
CYR	0.219D-05	0.142D-03	0.202D-03	0.217D-05	0.437D-02	
BIF	0.671D-03	0.454D-01	0.698D-01	0.160D-01	0.103D+01	
BIR	-0.669D-03	0.452D-01	0.779D-01	0.328D-03	0.103D+01	
YF	-0.319D+02	0.215D+04				
LF	-0.422D+02	0.285D+04				
NF	-0.757D+02	0.512D+04				
CTF				-0.633D-04		
CTR				-0.485D-04		

FORCE = 0.241446D+07

X Z H	Y - L	Z - P	DICF	VICR	OMEGAF	OMEGAR		
0.119D+02	0.182D+02	0.0	0.166D+02	0.292D+02	0.0	0.0		
0.166D+02	0.292D+02	0.0	-0.413D+01	0.810D+00	0.0	0.0		
-0.413D+01	0.810D+00	0.0	-0.102D+01	0.395D+00	0.0	0.0		
-0.102D+01	0.395D+00	0.0	-0.289D+00	0.130D+00	0.0	0.0		
-0.289D+00	0.130D+00	0.0	-0.143D-01	-0.155D-01	0.0	0.0		
-0.143D-01	-0.155D-01	0.0	E1F	-0.585D-02	0.120D-05	0.0	0.0	
C1F	0.255D-02	-0.614D-02	0.0	CTF	-0.359D-02	-0.456D-06	0.0	0.0
CH-	-0.359D-02	-0.456D-06	0.0	CHR	0.213D-03	-0.490D-02	0.0	0.0
CHR	0.213D-03	-0.490D-02	0.0	A1F	-0.104D+01	-0.207D-03	0.0	0.0
A1F	-0.104D+01	-0.207D-03	0.0	AIR	0.673D-02	-0.105D+01	0.0	0.0
AIR	0.673D-02	-0.105D+01	0.0	VFR	-0.221D+02	0.417D-01	0.0	0.0
VFR	-0.221D+02	0.417D-01	0.0	VRR	0.111D+02	-0.199D+02	0.0	0.0
VRR	0.111D+02	-0.199D+02	0.0	QF	0.149D+01	-0.395D-02	0.0	0.0
QF	0.149D+01	-0.395D-02	0.0	QR	0.184D+00	-0.356D+00	0.0	0.0
QR	0.184D+00	-0.356D+00	0.0	QFU	QFP	QFDELB	QFDELTAC	
QFY	QFQ	QFELS	QFBETA					
QFW	QFR	QFELR	QFALPHA					
-0.264D-02	0.947D+00	0.322D+00	0.653D+00					
0.592D-03	0.257D+01	-0.419D-02	0.400D-01					
-0.206D-01	-0.586D-02	-0.670D-02	-0.139D+01					
QRU	QRP	QRDELB	QRDELTAC					
QRV	QRQ	QRDELS	QRFBETA					
QRW	QRR	QRDELR	QRALPHA					
-0.152D-02	-0.551D+00	-0.675D+00	0.130D+01					
0.304D-03	0.268D+01	0.834D-02	0.206D-01					
0.540D-02	0.373D+00	-0.107D-01	0.365D+00					

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LF LW
6.00000D+01	0.0	-1.75000D+04	2.37800D-03	4.834855D+02
4.40000D+01	1.239247D+00	-4.020867D+00	1.321880D+00	7.361838D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	-2.190042D+01	0.0	-4.493559D-03	1.420209D+03
7.05000D+02	0.0	-2.112882D-01	0.0	1.015694D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
1.200349D+01	1.209180D+00	-2.500000D+00	-2.500000D+00	5.387784D+02
1.439353D+01	7.084282D-01	-2.500000D+00	-2.500000D+00	-1.160693D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.319851D+01	-3.231641D+00	1.701735D-01	3.878534D-01	4.805048D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.354922D+03	5.792677D+02	1.628894D+02	2.591726D+03	1.024161D+03
1.021403D+04	9.241483D+02	1.555341D+02	3.075363D+03	8.479356D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
7.808832D+03	-1.043899D+02	5.823702D+01	1.686259D+02	3.925295D+02
1.342911D+04	5.411626D+02	-2.389278D+03	2.875336D+02	6.750463D+02
XR	L/DE	SHPTOT	WFF	NMLB
5.892356D+02	3.044673D+00	1.167576D+03	1.168576D+03	5.134455D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.861923D-02	5.200283D-02	2.171050D-03	7.232041D-01	-3.234340D-02
5.841923D-02	7.226792D-02	3.733628D-03	7.250908D-01	-4.903543D-02
MUF	VF	DFFR	DFF	A0F
MUR	YR	DFRF		ADR
1.422482D-01	8.242049D+00	1.6119295D+00	9.654407D-01	2.594813D+00
1.430136D-01	1.105107D+01	6.105915D-41		3.888216D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.211860D+00	1.663118D+00	-1.677575D+00	6.742717D+00	3.728414D+00
4.999670D+00	1.376887D+00	-1.197737D+00	8.794661D+00	5.932301D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.033364D+02	-8.260753D+00	3.600000D+02	-4.048893D+00	4.528325D+00
1.035311D+02	-1.312981D+01	3.600000D+02	-7.610831D-01	5.185800D+00

CASE 3 PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
5.397687D-01	5.219275D-02	8.164721D-01	
5.382554D-01	7.200901D-02	1.719235D+00	

4

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
5.522782D+00	3.980523D+02	1.180718D+03	5.077353D-02
7.619643D+00	6.826659D+02	1.181718D+03	8.885367D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 8.00000D+01 4.40000D+01	RC ALPHA 0.0 7.992911D-01	GW ALFF 1.750000D+04 -2.107589D+00	RHO THETA 2.378000D-03 8.663809D-01	XF LW LF LW 6.642271D+02 7.445945D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -3.030591D-01	PSI GAMMA -4.055956D-03 0.0	XR LW LR LW 1.089602D+03 1.003277D+04
THE0F THEOR 1.267135D+01 1.436105D+01	A1CF A1CR 6.435831D-01 2.661144D-01	B1TF B1TR -8.000000D-01 -8.000000D-01	B1CF B1CR -8.000000D-01 -8.000000D-01	DFW LFFW 9.594786D+02 -3.176136D+01
THETAC 1.351620D+01	DELTAB -3.262674D+00	DELTIAS 1.153725D-01	DELTAR 1.783562D-01	DELTAC 5.051321D+00
TF TR 7.4660737D+03 1.006347D+04	HF HR 4.697877D+02 7.551582D+02	YF YR 1.024734D+02 9.290595D+01	MHF MHR 1.953726D+03 2.472219D+03	LHF LHR 7.777717D+02 7.502639D+02
QF QR 9.086691D+03 1.283612D+04	LFZ DFX -1.837373D+01 9.598283D+02	YFY MF 8.674695D+01 -3.045916D+03	LF NF 2.731609D+02 4.871538D+02	RHPP RHPR 4.567642D+02 6.452382D+02
XR 1.000459D+03	L/DE 4.495926D+00	SHPTOT 1.202002D+03	WFF 1.203002D+03	NMLB 6.650028D-02
SIG0F SIG0R 5.841923D-02 5.841923D-02	CTSF CTSR 5.296427D-02 7.194812D-02	CPSF CPSR 2.526326D-03 3.568762D-03	AMTF AMTR 7.535049D-01 7.535049D-01	LAMDAF LAMDAR -3.796511D-02 -4.717202D-02
MUF MUR 1.894472D-01 1.905315D-01	VF VR 6.326065D+00 8.385519D+00	DFFR DFRF 1.624482D+00 2.715172D-41	DFF DFF 9.321523D-01	A0F A0R 2.661680D+00 3.805148D+00
A1F AIR 3.173799D+00 4.017320D+00	B1F B1R 1.262935D+00 1.218261D+00	BETAOF BETAOR -6.380400D-01 -3.914024D-01	B180F B180R 5.713986D+00 7.654428D+00	A270F A270R 4.620254D+00 6.693038D+00
CAPVF CAPVR 1.351152D+02 1.366078D+02	ALPHAF ALPHAR -8.70079D+00 -1.048968D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -5.526910D+00 -2.183389D+00	BPTPF BPTPR 3.415846D+00 4.197979D+00

CASE 4

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CIRP	A90RA		
5.097325D+01	5.278904D-02	6.115976D-01		
5.081384D+01	7.112868D-02	1.178126D+00		

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NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.192187D+01	4.686860D+02	1.229988D+03	6.498845D-02	
1.606370D+01	6.613019D+02	1.230988D+03	1.137298D+03	

STABILITY DERIVATIVES OUTPUT

MASS 5.439174D+02	IXX 1.499900D+04	IYY 1.092210D+05	IZZ 1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.039941D-02	4.235466D-01	1.527202D-01	4.191892D-01
-3.165789D-04	1.018672D+00	1.168294D-03	-4.278925D-02
-5.414576D-02	-6.523918D-02	-3.639355D-02	7.318417D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.937621D-02	-1.823326D+00	8.453611D-01	-8.636565D+00
-5.929322D-03	-8.194065D-01	-8.891582D-03	8.014156D-01
-8.3698886D-01	-8.137804D-01	5.987975D-02	-1.131286D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-5.3894664D-03	5.590718D-02	4.824412D-01	2.597357D-01
-5.856997D-04	-1.429281D+00	-3.299070D-03	-7.916400D-02
-2.252434D-02	-2.516046D-01	-9.128049D-04	3.044421D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
7.526283D-04	-1.427207D+00	8.986743D-02	4.457466D-02
-1.186102D-01	7.301713D-02	8.636757D-01	-1.603152D+01
-1.034244D-03	-1.783471D-01	-2.146109D-01	-1.397898D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-5.778882D-04	-7.501010D-01	1.415816D-02	5.043266D-03
-8.308814D-03	9.841517D-02	3.620502D-01	-1.123031D+00
-6.939037D-05	-4.890451D-02	-1.768346D-01	-9.378900D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
3.212392D-04	1.174326D-02	2.575257D-02	1.862617D-03
-3.235287D-03	-1.408190D-01	1.079284D-02	-4.372860D-01
8.817027D-04	-3.682990D-02	1.210612D-01	1.191722D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.705D-05-0.497D-02	0.102D-03	0.138D-01-0.173D-02	0.524D-01		
CTR	0.972D-05 0.685D-02	0.733D-06	0.990D-02 0.195D-02	0.350D-01		
CHF	0.597D-06 0.421D-03	0.723D-05	0.978D-03-0.259D-03	0.450D-02		
CHR	0.270D-05 0.196D-02	0.679D-05	0.918D-03-0.220D-04	0.429D-02		
A1F	0.245D-03 0.172D+00	0.619D-03	0.836D-01-0.813D-01	0.567D+00		
AIR	0.444D-03 0.313D+00	0.464D-03	0.628D-01-0.630D-01	0.477D+00		
YFR	-0.601D-01-0.424D+02	0.209D+00	0.282D+02-0.365D+01	0.196D+03		
VRR	-0.385D-01-0.272D+02	0.148D+00	0.200D+02 0.415D+01	0.670D+02		
LF		0.314D+02	0.425D+04			
DF		-0.664D+00-0.897D+02				
MF		0.232D+03 0.313D+05				

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.114D-05-0.155D-03-0.126D-03-0.431D-04	0.319D-02			
CYR	0.188D-05 0.255D-03 0.196D-03-0.277D-05	0.432D-02			
B1F	0.-104D-03 0.141D-01-0.672D-01-0.141D-01	0.103D+01			
B1R	-0.105D-03-0.142D-01 0.733D-01 0.219D-04	0.103D+01			
YF	-0.572D+02-0.773D+04				
LF	-0.408D+02-0.552D+04				
NF	-0.339D+03-0.459D+05				
CTF		-0.242D-03			
CTR		-0.104D-03			

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	8.867D+01	0.171D+02	0.0	0.0
Z	0.428D+02	0.629D+02	0.0	0.0
H	-0.897D+01	0.317D+01	0.0	0.0
Y	-0.993D+00	0.314D+00	0.0	0.0
L	-0.474D+00	0.322D+00	0.0	0.0
N	0.490D-01	-0.134D+00	0.0	0.0
CTF	-0.138D-01	-0.808D-07	0.0	0.0
CTR	-0.453D-02	-0.138D-01	0.0	0.0
CHF	-0.414D-02	-0.421D-07	0.0	0.0
CHR	0.408D-03	-0.556D-02	0.0	0.0
AIF	-0.110D+01	-0.160D-04	0.0	0.0
AIR	0.256D-01	-0.111D+01	0.0	0.0
VFR	-0.280D+02	0.434D-02	0.0	0.0
VRR	0.966D+01	-0.273D+02	0.0	0.0
QF	0.266D+01	0.385D-03	0.0	0.0
QR	-0.110D+01	0.336D+01	0.0	0.0
QFU	QFP	QFDELB	QFDLTAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.826D-03	0.271D+00	0.328D+00	0.669D+00	
0.183D-03	0.253D+01	-0.703D-02	0.247D-01	
-0.183D-01	-0.169D+00	-0.104D-01	-0.247D+01	
QRU	QRP	QRDELB	QRDLTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.724D-02	-0.137D+00	-0.417D+00	0.103D+01	
-0.875D-04	0.248D+01	0.876D-02	-0.118D-01	
-0.173D-01	0.315D+00	-0.178D-01	-0.233D+01	

V FE	RC ALPHA	GW ALFFF	RHO THETA	XF LW
1.00000D+02 4.00000D+01	0.0 4.984391D-01	1.750000D+04 -1.343050D+00	2.378000D-03 5.919056D-01	9.033326D+02 7.600931D+03
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW
7.05000D+02 7.05000D+02	-2.190042D+01 0.0	0.0 -4.090389D-01	-3.189551D-03 0.0	1.135574D+03 9.793511D+03
THEOF THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.385571D+01 1.487169D+01	11.290907D-01 -1.008802D-01	1.600000D+00 1.600000D+00	1.600000D+00 1.600000D+00	1.498122D+03 6.165566D+01
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.436370D+01	-3.126749D+00	8.644115D-02	1.219775D-02	5.708295D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
7.648655D+03 9.848098D+03	2.9704448D+02 4.662158D+02	5.679946D+01 4.787063D+01	1.033635D+03 1.4633876D+03	6.675167D+02 6.752274D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHFF RHPR
1.146360D+04 1.395838D+04	7.468593D+01 1.497529D+03	1.289461D+02 -3.991790D+03	3.957159D+02 7.707157D+02	5.762349D+02 7.016511D+02
XR 1.555218D+03	L'DE 5.968946D+00	SHPTOT 1.377886D+03	WFF 1.377886D+03	NMLB 7.252231D-02
SIGOF SIGOR	CTSF CTSR	CPSF CPSR	AMIF AMTR	LAMDAF LANDAR
5.841923D-02 5.841923D-02	5.457207D-02 6.959641D-02	3.187110D-03 3.880777D-03	7.807684D-01 7.818326D-01	-4.485909D-02 -4.849423D-02
MUF MUR	VF VR	DFFR DFRF	FFF	AOF AOR
2.366155D-01 2.380253D-01	5.200253D+00 6.635415D+00	1.620895D+00 5.362764D-14	9.173656D-01	2.794798D+00 3.672892D+00
A1F AIR	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
1.678506D+00 2.377511D+00	1.083881D+00 1.096403D+00	8.513181D-01 9.748302D-01	4.234582D+00 5.753547D+00	5.785759D+00 7.460212D+00
CAPVF CAPVR	1 ALPHAF	BETAFW	ATIPF ATIPR	BPTPF BPTPR
1.688940D+02 1.700548D+02	-9.001561D+00 -9.324405D+00	3.600000D+02 3.600000D+02	-7.323055D+00 -4.124050D+00	1.98045D+00 2.618140D+00

CASE 4 PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.799174D-01	5.388782D-02	4.544749D-01		
4.781284D-01	6.943242D-02	7.723922D-01		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NHLB
	DELHPR	RHPR	WFF	RP
2.332615D+01	5.995611D+02	1.431267D+03	6.981938D-02	
3.005486D+01	7.317060D+02	1.432267D+03	1.221839D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW LF LW
1.20000D+02 4.40000D+01	0. -8.438381D-01	1.75000D+04 -2.1408666D+00	2.378000D-03 -7.978454D-01	1.112953D+03 7.800766D+03
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.050000D+02 7.050000D+02	-2. 0.0	0. -6.131073D-01	8.685651D-03 0.0	1.408886D+03 9.672389D+03
THEOF THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.524467D+01 1.62318D+01	-3. -2.	992169D-03 044663D-01	2.800000D+00 4.000000D+00	2.800000D+00 4.000000D+00
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.573793D+01	-3.447972D+00	7.873311D-02	-6.141800D-02	6.773588D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
7.873765D+03 9.769839D+03	3. 2.	057897D+02 6.04833D+02	6.007449D+01 6.136953D+01	9.969484D+02 7.108188D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHFF RHPR
1.438768D+04 1.743870D+04	-4. 2.	783613D+01 159700D+03	1.956582D+02 -6.900950D+03	1.062801D+02 1.095937D+03
XK	L'DE	SHPTOT	WFF	NMLB
2.188232D+03	7.217536D+00	1.699829D+03	1.700829D+03	7.055384D-02
SIGOF SIGOR	CTSF CTS	CPSF CPSP	AMIF AMIR	LAMDAF LAMNDAR
5.841923D-02 5.841923D-02	5.603013D-02 6.901961D-02	4.000133D-03 4.848394D-03	8.101527D-01 8.106715D-01	-5.795557D-02 -5.684213D-02
MUF MUR	VF VR	DFFR DFRF	DFF	AOF AOR
2.828070D-01 2.847894D-01	4. 5.	4667761D+00 5.507944D+00	1.545798D+00 1.242916D-11	9.203958D-01 3.690113D+00
A1F AIR	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
1.618915D+00 1.154203D+00	1.211584D+00 1.295195D+00	8. 2.	187344D+00 4.406729D+00	1.180423D+00 8.801844D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
2.026728D+02 2.037302D+02	-1. -9.	034384D+01 7.68299D+00	3.946654D-19 3.919182D-19	3.512751D+02 3.5333104D+02

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CASE 5

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.507620D-01	5.530416D-02	3.269590D-01		
4.488577D-01	6.8557371D-02	5.471333D-01		

2

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.912262D+01	7.6235335D+02	1.787461D+03	6.709680D-02	
4.850961D+01	9.251075D+02	1.788461D+03	1.174194D+03	

STABILITY DERIVATIVES OUTPUT

MASS 5.439174D+02	IXX 1.499900D+04	IYY 1.092210D+05	IZZ 1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.138566D-02	3.329168D-01	8.262921D-02	7.864566D-01
-1.602735D-03	7.564759D-01	1.540863D-03	-3.248651D-01
8.598193D-02	-4.223030D-02	-3.533509D-02	1.742804D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
5.487114D-02	-6.538860D-01	6.605926D-01	-1.031314D+01
9.521802D-03	-1.077894D+00	-9.301977D-03	1.930015D+00
-9.587934D-01	-5.238388D-01	8.789841D-02	-1.943619D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-4.203604D-03	2.678713D-01	5.298456D-01	2.457291D-01
5.030285D-04	-1.455718D+00	-5.481221D-03	1.019610D-01
2.161578D-02	-2.781612D-01	1.326759D-03	4.381394D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.192748D-03	-7.470984D-01	8.351866D-02	4.111834D-02
-1.708778D-01	7.321704D-03	8.783391D-01	-3.463596D+01
-4.956137D-03	-1.859321D-01	-1.449369D-01	-1.004580D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-8.125598D-05	-5.373777D-01	3.972434D-03	-6.217817D-03
-1.037390D-02	9.066496D-02	3.634532D-01	-2.102729D+00
-1.402440D-03	-5.124111D-02	-1.595994D-01	-2.842665D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.429895D-04	8.741320D-03	4.266351D-02	8.393050D-03
-5.304983D-03	-1.622288D-01	1.430858D-02	-1.075290D+00
1.247458D-03	-5.277557D-02	1.237594D-01	2.528526D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.126D-04-0.890D-02	0.109D-03	0.222D-01-0.176D-02	0.594D-01		
CTR	-0.172D-05-0.121D-02	0.871D-04	0.176D-01-0.203D-02	0.454D-01		
CHF	0.867D-06-0.611D-03	0.545D-05	0.111D-02-0.173D-03	0.407D-02		
CHR	0.188D-05-0.133D-02	0.437D-05	0.886D-03-0.435D-04	0.351D-02		
CHY	0.256D-03-0.181D+00	0.998D-03	0.202D+00-0.896D-01	0.893D+00		
ALF	0.413D-03-0.291D+00	0.817D-03	0.166D+00-0.589D-01	0.784D+00		
AIR	-0.394D-01-0.278D+02	0.150D+00	0.304D+02-0.245D+01	0.808D+02		
VFR	-0.286D-01-0.202D+02	0.119D+00	0.240D+02-0.280D+01	0.607D+02		
YRR	-0.489D+02-0.991D+04					
LF	-0.102D+01-0.206D+03					
DF	-0.360D+03-0.730D+05					
MF						

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.149D-05-0.301D-03-0.565D-04-0.434D-04	0.342D-02			
CYR	0.193D-05-0.390D-03-0.112D-03-0.145D-05	0.418D-02			
BIF	-0.253D-03-0.513D-01-0.640D-01-0.175D-01	0.103D+01			
BIR	0.299D-03-0.605D-01-0.693D-01-0.348D-02	0.103D+01			
YF	-0.847D+02-0.172D+05				
LF	-0.642D+02-0.130D+05				
NF	-0.538D+03-0.109D+06				
CTF		-0.229D-03			
CTR		-0.264D-03			

FORCE = 0.241446D+07

X Z M Y L N	BICF	BICR	OMEGAF	OMEGAR
	0.494D+01	0.102D+02	0.0	0.0
	0.766D+02	0.989D+02	0.0	0.0
	-0.117D+02	0.597D+01	0.0	0.0
	-0.111D+01	0.123D+00	0.0	0.0
	-0.391D+00	0.182D+00	0.0	0.0
	-0.246D+00	0.174D+00	0.0	0.0
	CTF	-0.222D-01	0.360D-06	0.0
	CTR	0.509D-02	-0.222D-01	0.0
	CHF	-0.445D-02	0.330D-07	0.0
	CHR	0.243D-03	-0.502D-02	0.0
	AIF	-0.122D+01	0.100D-04	0.0
	AIR	0.447D-01	-0.122D+01	0.0
	VFR	-0.302D+02	-0.443D-02	0.0
	VRR	0.712D+01	-0.300D+02	0.0
	QF	-0.478D+01	-0.594D-04	0.0
	QR	0.415D+00	-0.574D+01	0.0
	QFU	QFP	QFDLB	QFDLTAC
	QFY	QFQ	QFDLS	QFBETA
	QFW	QFR	QFDLR	QFALPHA
	-0.616D-02	0.162D+00	0.585D+00	0.120D+01
	0.916D-04	0.124D+01	-0.121D-01	0.186D-01
	0.196D-01	-0.430D+00	-0.177D-01	0.396D+01
	QRU	QRP	QRDELB	QRDELTAC
	QRV	QRQ	QRDELS	QRBETA
	QRW	QRR	QRDELR	QRALPHA
	-0.677D-02	-0.646D-03	-0.681D+00	0.133D+01
	-0.177D-03	0.184D+01	0.162D-01	-0.359D-01
	0.669D-02	0.546D+00	-0.289D-01	0.136D+01

CASE 5

PAGE 3

V FE 1.400000D+02 4.400000D+01	RC ALPHA 0.0 -4.771221D+00	GW ALFF 1.750000D+04 -5.806163D+00	RHO THETA 2.378000D-03 -4.719358D+00	XF LW LF LW 1.510007D+03 8.242134D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -1.078736D+00	PSI GAMMA 8.682697D-02 0.0	XR LW LR LW 1.750724D+03 1.004020D+04
THEOF THEOR 1.750838D+01 1.821566D+01	A1CF A1CR -2.156472D-01 -2.888377D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.007278D+03 -8.240659D+02
THETAC 1.786202D+01	DELTIAB -3.558120D+00	DELTAS 4.083777D-02	DELTAR -8.873988D-02	DELTAC 8.420173D+00
TF TR 8.360014D+03 1.017632D+04	HF HR 5.683794D+02 5.595238D+02	YF YR 6.366139D+01 7.331848D+01	MHF MHR 2.047580D+03 1.768572D+03	LHF LHR 8.391776D+02 9.809335D+02
QF QR 1.997480D+04 2.358386D+04	LFZ DFX -1.071348D+03 2.928314D+03	YFY MF 3.485681D+02 -1.648144D+04	LF HF 9.852589D+02 1.4611579D+03	RHPF RHPR 1.004081D+03 1.185499D+03
XR 3.038264D+03	L/DE 7.650511D+00	SHP10T 2.289579D+03	WFF 2.290579D+03	NMLB 6.111991D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS R 5.945271D-02 7.250157D-02	CPSF CPS R 5.553391D-03 6.5556899D-03	AMTF AMTR 8.394945D-01 8.403180D-01	LAMDAF LAMDAR -8.846342D-02 -8.302350D-02
MUF MUR 3.250420D-01 3.283390D-01	VF VR 4.078487D+00 4.926921D+00	DFFR DFRF 1.316047D+00 6.435362D-11	DFF 9.533944D-01	A0F A0R 3.233767D+00 3.986693D+00
A1F AIR 3.326431D+00 2.872755D+00	B1F B1R 1.362663D+00 1.592903D+00	BETAOF BETAOR -7.199627D-01 3.744364D-01	B180F B180R 6.025061D+00 6.229572D+00	A270F A270R 9.219130D+00 1.091623D+01
CAPVF CAPVR 2.364516D+02 2.376047D+02	ALPHAF ALPHAR -1.427122D+01 -1.303841D+01	BETAFW BETARW 3.204915D-18 3.172733D-18	ATIPF ATIPR 3.490552D+02 3.511015D+02	BPIPF BPIPR 3.594718D+00 3.284822D+00

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CASE 5

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	4.236124D-01	5.843372D-02	A90F	
	4.204513D-01	7.118135D-02	A90RA	
			2.786455D-01	
			4.251742D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
5.768695D+01	1.0611768D+03	2.417538D+03	5.788621D-02	
7.027167D+01	1.255770D+03	2.418538D+03	1.013009D+03	
				STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 6

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.460000D+02	0.0	1.750000D+04	2.378000D-03	1.660028D+03
4.400000D+01	-6.109157D+00	-7.096381D+00	-6.046986D+00	8.471808D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	1.252000D-01	1.897995D+03
7.050000D+02	0.0	-1.217784D+00	0.0	1.021939D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFW
1.835352D+01	-1.985985D-01	2.800000D+00	2.800000D+00	3.317434D+03
1.898360D+01	-2.301488D-01	4.000000D+00	4.000000D+00	-1.234541D+03
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.866856D+01	-3.591611D+00	3.121198D-02	-6.735494D-02	9.045395D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.606034D+03	6.807352D+02	7.928345D+01	2.446330D+03	9.452032D+02
1.037215D+04	6.759043D+02	8.804271D+01	2.160881D+03	1.106694D+03
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
2.235856D+04	-1.580581D+03	3.9110002D+02	1.129843D+03	1.123906D+03
2.637310D+04	3.167211D+03	-2.075037D+04	1.374933D+03	1.325707D+03
XR	L/DE	SHPTOT	WFF	NMLB
3.354214D+03	7.502323D+00	2.549613D+03	2.550613D+03	5.724114D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	6.119100D-02	6.216237D-03	8.483527D-01	-9.982734D-02
5.841923D-02	7.400490D-02	7.332378D-03	8.492618D-01	-9.334707D+03
MUF	VF	DFFR	DFF	ADF
MUR	VR	DFRF		AOR
3.368668D-01	4.028648D+00	1.257122D+00	9.539420D-01	3.376118D+00
3.406513D-01	4.817922D+00	2.066485D-10	6.222948D+00	4.113786D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.975184D+00	1.534867D+00	-1.312906D+00	6.747357D+00	1.000716D+01
3.510721D+00	1.797184D+00	-2.252967D-01	6.222948D+00	1.170302D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.465852D+02	-1.560916D+01	9.674844D-18	3.483660D+02	4.261210D+00
2.477830D+02	-1.424980D+01	9.567359D-18	3.5040167+02	3.943987D+00

CASE 6

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.157853D+01	CTFP	A90F	A90RA	
4.121858D+01	CTR _P	6.006202D-02	2.785090D-01	
		7.245176D-02	4.077835D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
6.381290D+01	1.18719D+03	2.690402D+03	5.424681D-02	
7.697638D+01	1.402683D+03	2.691402D+03	9.493193D+02	

STABILITY DERIVATIVES' OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.842667D-02	2.332992D-01	6.427181D-02	4.633757D-01
-4.829067D-04	1.077684D-01	3.187139D-03	-1.184312D-01
5.357087D-02	-1.920690D-02	-2.464252D-02	1.313807D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
4.534832D-02	-1.765183D-01	4.647766D-01	-1.148017D+01
1.315720D-02	-1.284929D+00	-1.123079D-02	3.226758D+00
-1.048016D+00	-6.584627D-01	1.180516D-01	-2.570225D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.242892D-03	3.538122D-01	5.509584D-01	2.490516D-01
-1.73457D-03	-1.396297D+00	-7.000777D-03	2.632616D-01
2.261681D-02	-3.732015D-01	8.345968D-04	5.546695D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
5.157049D-03	-1.506785D-02	4.186082D-02	3.165889D-02
-2.182821D-01	-6.797577D-02	9.627134D-01	-5.353295D+01
1.876336D-03	-1.395961D-01	-1.423465D-01	4.601650D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
5.410483D-04	-3.444470D-01	-4.534572D-02	-1.846312D-02
-1.594053D-02	9.554973D-02	3.865593D-01	-3.909360D+00
-4.359563D-05	4.197866D-03	-1.701493D-01	-1.069168D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-7.366061D-06	3.101282D-02	8.776192D-02	6.471073D-03
-4.432074D-03	-2.040611D-01	1.669670D-02	-1.086951D+00
7.9066916D-04	-9.054282D-02	1.355598D-01	1.939144D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.895D-05-0.631D-02	0.112D-03	0.275D-01-0.170D-02	0.634D-01		
CTR	-0.122D-05-0.859D-03	0.953D-04	0.234D-01-0.200D-02	0.530D-01		
CHF	0.965D-06 0.680D-03	0.105D-04	0.257D-02-0.184D-03	0.668D-02		
CHR	0.210D-05 0.148D-02	0.742D-05	0.182D-02-0.122D-03	0.575D-02		
AIF	0.347D-03 0.244D+00	0.125D-02	0.306D+00-0.935D-01	0.112D+01		
AIR	0.482D-03 0.340D+00	0.108D-02	0.265D+00-0.565D-01	0.103D+01		
VFR	-0.261D-01-0.186D+02	0.127D+00	0.312D+02-0.198D+01	0.709D+02		
VRR	-0.203D-01-0.143D+02	0.108D+00	0.265D+02-0.228D+01	0.585D+02		
LF		0.686D+02	0.168D+05			
DF		0.780D+00	0.191D+03			
HF		0.470D+03	0.115D+06			

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.199D-05-0.489D-03	0.300D-04-0.486D-04	0.379D-02		
CYR	0.252D-05 0.618D-03	0.334D-04-0.171D-04	0.454D-02		
BIF	-0.213D-03-0.523D-01-0	0.623D-01-0.180D-01	0.104D+01		
BIR	0.302D-03 0.740D-01	0.681D-01 0.381D-03	0.104D+01		
YF	-0.108D+03-0.264D+05				
LF	-0.118D+03-0.289D+05				
NF	-0.443D+03-0.109D+06				
CTF			-0.292D-03		
CTR			-0.355D-03		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.691D+01	0.137D+02	0.0	0.0
Z	0.103D+03	0.121D+03	0.0	0.0
H	-0.138D+02	0.733D+01	0.0	0.0
Y	-0.685D+00	0.334D+00	0.0	0.0
L	0.421D+00	-0.134D+00	0.0	0.0
N	-0.103D+01	0.823D+00	0.0	0.0
CTF	-0.272D-01	-0.172D-06	0.0	0.0
CTR	0.428D-02	-0.272D-01	0.0	0.0
CHF	-0.593D-02	-0.292D-07	0.0	0.0
CHR	0.321D-03	-0.646D-02	0.0	0.0
AIF	-0.132D+01	-0.477D-05	0.0	0.0
AIR	0.459D-01	-0.133D+01	0.0	0.0
VFR	-0.304D+02	0.217D-02	0.0	0.0
VRR	0.498D+01	-0.302D+02	0.0	0.0
QF	-0.261D+02	-0.648D-04	0.0	0.0
QR	0.381D+01	-0.259D+02	0.0	0.0
QFU	QFP	QFDELB	QFDELJAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.105D-01	0.259D+00	0.106D+01	0.241D+01	
0.248D-03	0.118D+01	-0.900D-02	0.607D-01	
0.796D-01	-0.773D+00	-0.142D-01	0.195D+02	
QRU	QRP	QRDELB	QRDELJAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.538D-02	-0.149D+00	-0.150D+01	0.243D+01	
-0.314D-03	0.312D+01	0.126D-01	-0.771D-01	
0.850D-01	0.115D+01	-0.192D-01	0.208D+02	

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
14000 ft	0 kt	0 ft/min	0 deg	X
	20			
	40			X
	60			X
	80			X
	100			
	112			X

V FE 0.0 4.400000D+01	RC ALPHA 0.0 0.0	GW ALFF 1.750000D+04 2.700000D+02	RHO THETA 1.546598D-03 5.569048D+00	XF LW LF LW 7.793554D+03 3.589794D+02
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -1.340876D-01	PSI GAMMA 0.0 0.0	XR LW LR LW 1.035165D+04 4.824497D+02
THEOF THEOR 1.614422D+01 1.8466794D+01	A1CF A1CR 2.024468D+00 1.274538D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW -3.022248D-14 -6.602328D+02
THETAC 1.730608D+01	DELTAB -1.816247D+00	DELTIAS 2.488471D-01	DELTAR 6.620521D-01	DELTAC 7.989210D+00
TF TR 7.793554D+03 1.035165D+04	HF HR 3.589794D+02 4.824497D+02	YF YR 2.747941D+02 2.326236D+02	MHF MHR 1.6102226D+03 1.658497D+03	LHF LHR 1.208468D+03 7.7433619D+02
QF QR 1.421591D+04 2.279068D+04	LFZ DFX -6.602328D+02 -3.022248D-14	YFY MF -1.476041D-14 -6.602328D+02	LF NF -7.468925D-14 4.114220D-13	RHPPF RHPR 7.145965D+02 1.145628D+03
XR 1.714946D+03	L/DE 0.0	SHPTOT 1.960224D+03	WFF 1.961224D+03	NMLB 0.0
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS F CTS R 8.521390D-02 1.130326D-01	CPS F CPS R 6.07051D-03 9.742615D-03	AMTF AMTR 6.665492D-01 6.667035D-01	LAMDA F LAMDA R -5.423534D-02 -6.447287D-02
MUF MUR 5.203420D-19 1.257330D-18	VF VR 3.613236D+01 4.037002E+01	DFF R DFF R 1.606733D-01 5.209670D-02	DFF 1.299000D+00	A0F A0R 3.039884D+00 4.117551D+00
A1F AIR 2.615359D+00 2.693819D+00	B1F B1R 1.962519D+00 1.257339D+00	BETA OF BETA OR 4.623940D-01 1.398818D+00	B180F B180R 5.660871D+00 6.813307D+00	A270F A270R 4.645953D+00 6.408020D+00
CAPVF CAPVR 2.103526D+00 5.082860D+00	ALPHAF ALPHAR 2.700000D+02 2.700000D+02	BETAFW BETARW 0.0 0.0	ATIPF ATIPR -6.884641D+00 -4.306181D+00	BPTPF BPTPR 3.269799D+00 2.972828D+00

CASE 7

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RNIF	CTFP	A90F	
RNIR	CTR	A90RA	
6.609744D+01	3.913163D+03	4.505184D+00	
6.606904D+01	5.259089D+03	6.124002D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
0.0	7.145965D+02	1.960224D+03	0.0
0.0	1.145628D+03	1.961224D+03	0.0

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STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.427237D-02	-3.053164D+00	5.434242D-02	5.410668D-01
-3.351766D-04	1.353504D+00	4.622238D-03	-1.066900D-03
9.060366D-02	-7.312436D-02	-6.058291D-02	2.884004D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
3.593232D-03	3.819104D+01	9.594511D-02	-5.491040D+00
2.748860D-03	6.138701D-01	3.217040D-03	8.749895D-03
-1.101552D+00	-2.123474D-01	2.394451D-02	-3.506348D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELRL	MALPHA
-9.922378D-05	3.253167D+00	2.339676D-01	5.726061D-02
-1.321589D-03	-6.858605D-01	-4.059381D-04	-4.206748D-03
-6.638741D-02	-2.377938D-01	5.709285D-03	-2.113177D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELRL	YALPHA
-6.510020D-04	-8.5777240D-02	7.830890D-02	3.992137D-02
-2.888175D-01	1.341759D-01	9.045067D-01	-9.193348D-01
-1.698433D-02	-2.626123D-01	-1.866647D-01	-5.406281D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELRL	LALPHA
-3.064773D-04	-7.233689D-01	-2.5904662D-02	-2.423544D-03
-1.026990D-05	1.816578D-01	-3.734689D-01	3.269012D-03
-9.102715D-04	-6.647476D-02	-1.627438D-01	-2.897484D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELRL	NALPHA
3.863197D-05	1.980094D-01	4.939874D-02	2.421464D-04
-1.429783D-03	-1.624277D-01	1.230188D-02	-4.551139D-03
-4.813904D-03	-7.171680D-02	1.226979D-01	-1.532313D-02

NADC-81118-60
Volume 4

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.311D-05-0.219D-02	0.349D-04	0.111D-03-0	0.823D-03	0.430D-01	
CTR	-0.911D-06-0.642D-03	0.367D-03	0.117D-02	0.643D-03	0.636D-01	
CHF	0.248D-05 0.175D-02	0.207D-05	0.658D-05-0	0.248D-03	0.204D-02	
CHR	0.448D-05 0.316D-02	0.172D-04	0.549D-04-0	0.284D-03	0.209D-02	
A1F	0.928D-02 0.654D+01	0.929D-02	0.296D-01-0	0.110D+00	0.620D-02	
AIR	0.925D-02 0.652D+01	0.931D-02	0.296D-01-0	0.115D+00	0.526D-02	
VFR	-0.922D-01-0.650D+02	0.514D+00	0.164D+01-0	0.120D+02	0.162D+03	
VRR	-0.538D-01-0.379D+02	0.312D+01	0.993D+01 0	0.865D+01	0.131D+03	
LF		-0.313D+02-0	0.998D+02			
DF		-0.144D-14-0	0.457D-14			
MF		-0.313D+02-0	0.998D+02			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.277D-05-0.883D-05	-0.189D-03-0	0.101D-03	0.517D-02	
CYR	0.443D-05 0.161D-04	-0.160D-03-0	0.101D-04	0.669D-02	
B1F	0.929D-02 0.296D-01	-0.108D+00-0	0.241D-01	0.104D+01	
B1R	-0.925D-02-0.294D-01	0.116D+00 0	0.122D-02	0.956D+00	
YF	-0.146D+03-0	0.464D+03			
LF	0.131D+03 0	0.418D+03			
NF	-0.146D+03-0	0.464D+03			
CTF			0.113D-04		
CIR			-0.276D-03		

FORCE = 0.157031D+07

X	Z	H	Y	L	N	BICF	BICR	OMEGA F	OMEGA R
-0.147D+02	-0.259D+01	-0.239D+00	-0.114D+01	-0.518D+00	-0.256D+00	-0.391D-01	0.0	0.0	0.0
CTR	CTF	CHF	CHR	AIF	AIR	VFR	VRR	QFV	QFP
-0.517D-02	-0.338D-05	-0.674D-05	-0.517D-06	-0.193D+01	-0.174D-03	-0.135D-01	-0.772D-01	QFU	QFV
QFM	QFR								
-0.945D+00	-0.274D+00	-0.119D+00	-0.274D-01	-0.338D-01	-0.174D-03	-0.135D-01	-0.772D-01	-0.119D-03	-0.119D-03
-0.874D-03	-0.647D-02	-0.874D-03	-0.647D-02	-0.119D-03	-0.112D+01	-0.121D+01	-0.355D+00	-0.116D-03	-0.810D+01
QRU	QRV	QRW	QRW	QRW	QRP	QRP	QRP	QRU	QRV
0.116D-03	0.882D-03	0.211D+00	0.211D+00	0.882D-03	-0.810D+01	-0.155D+01	-0.834D+00	0.116D-03	-0.810D+01
0.882D-03	0.211D+00	0.882D-03	0.211D+00	0.882D-03	-0.155D+01	-0.136D-02	-0.658D-01	0.136D-02	-0.136D-02
0.211D+00	0.882D-03	0.211D+00	0.882D-03	0.211D+00	-0.834D+00	-0.658D-01	0.673D+00	0.673D+00	0.673D+00

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
2.00000D+01	0.0	1.75000D+04	1.546598D-03	2.657084D+02
4.00000D+01	4.030660D+00	-4.6664126D+01	4.086598D+00	7.570376D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	-2.190042D+01	0.0	-5.689390D-03	5.478188D+03
7.05000D+02	0.0	-8.217409D-02	0.0	8.724651D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFW
1.506687D+01	3.070500D+00	-2.500000D+00	-2.500000D+00	2.094401D+01
1.903752D+01	2.106399D+00	-2.500000D+00	-2.500000D+00	-3.686352D+02
THEJAC	DELTAB	DELIAS	DELSTAR	DELTAC
1.705219D+01	-3.106926D+00	3.202269D-01	1.042130D+00	7.792398D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.560267D+03	4.728190D+02	4.150542D+02	2.212012D+03	1.972698D+03
1.027617D+04	7.282797D+02	3.974509D+02	2.491282D+03	1.415053D+03
QF	LPZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.1163869D+04	-3.662513D+02	7.808857D-00	3.400480D+01	5.614210D+02
2.467066D+04	4.680369D+01	-1.832001D+03	-1.393570D+02	1.240130D+03
XR	L/DE	SHPTOT	WFF	HMMLB
5.494564D+01	5.662172D-01	1.901551D+03	1.902551D+03	1.051220D-02
SIGOF	CTSFS	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.212633D-02	6.774620D-03	6.986739D-01	-4.555412D-02
5.841923D-02	1.110850D-01	1.054627D-02	7.014822D-01	-7.585643D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
4.769506D-02	2.881590D+01	7.953893D-01	1.321279D+04	2.885767D+00
4.784886D-02	2.879115D+01	2.454706D-03		4.117768D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.593900D+00	3.204651D+00	-7.026495D-01	6.476232D+00	5.074998D+00
4.048349D+00	2.298174D+00	6.969291D-02	8.162065D+00	7.690079D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPPR
3.378562D+01	-5.588785D+00	3.600000D+02	-1.875440D+00	4.815175D+00
4.179160D+01	-3.617843D+01	3.600000D+02	1.079010D+00	4.655184D+00

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CASE 6

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
6.281986D-01	8.252316D-02	3.243914D+00		
6.276669D-01	9.510569D-02	5.152909D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	5.614210D+02	1.901551D+03	1.051220D-02	
0.0	1.240130D+03	1.902551D+03	1.839636D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 8

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V FE 4.00000D+01 4.40000D+01	RC ALPHA 0.0 2.561146D+00	GW ALFF 1.750000D+04 -1.574117D+01	RHO THETA 1.546598D-03 2.608338D+00	XF LW LF LW 3.222990D+02 7.401872D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -6.381270D-02	PSI GAMMA -2.829196D-03 0.0	XR LW LR LW 3.557827D+03 9.718920D+03
THEOF THEOR 1.410527D+01 1.874323D+01	AICF AICR 3.315152D+00 2.263845D+00	B11TF B11TR -2.500000D+00 -2.500000D+00	B1CF B1CF -2.500000D+00 -2.500000D+00	DFW LFFF 1.402401D+02 -2.491244D+02
THETAC 1.642425D+01	DELTAB -3.738624D+00	DELTAS 3.494675D-01	DELTAR 1.122983D+00	DELTAC 7.305623D+00
TF TR 7.386595D+03 1.030562D+04	HF HR 5.742820D+02 9.537547D+02	YF YR 4.396139D+02 4.393798D+02	MHF MHR 2.670378D+03 3.266734D+03	LHF LHR 2.31367D+03 1.673344D+03
QF QR 8.577714D+03 2.323006D+04	LFZ DFX -2.426088D+02 1.512322D+02	YFY MF 1.938921D+01 -2.08928D+03	LF NF 6.512693D+01 -7.160496D+01	RHPP RHPR 4.311792D+02 1.167714D+03
XR 1.690105D+02	L/DE 1.280923D+00	SHPTOT 1.698893D+03	WFF 1.699893D+03	NMLB 2.353089D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTS F CTS R 8.124430D-02 1.115380D-01	CPS F CPS R 3.666822D-03 9.930441D-03	AMTF AMTR 7.302324D-01 7.349471D-01	LAMDAF LANDAR -3.735759D-02 -7.553042D-02
MUF MUR 9.512452D-02 9.553895D-02	VF VR 1.817107D+01 2.125100D+01	DFRF DFRF 1.471839D+00 2.682057D-41	UFF 1.118247D+04	AOF AOR 2.791955D+00 4.113905D+00
A1F AIR 4.339920D+00 5.311653D+00	B1F B1R 3.625388D+00 2.717952D+00	BETAOF BETAOR -1.551371D+00 -1.193125D+00	B180F B180R 7.105195D+00 9.389083D+00	A270F A270R 5.511604D+00 8.810021D+00
CAPVF CAPVR 6.755760D+01 7.4555868D+01	ALPHAF ALPHAR -6.938854D+00 -2.539377D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.598934D+00 8.727993D-01	BPTPF BPTPR 5.654940D+00 5.966651D+00

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.967253D-01	8.068633D-02	2.294787D+00		
5.954644D-01	1.059464D-01	4.108629D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WFF	RP
1.883840D+00	4.330630D+02	1.703251D+03	2.347072D-02
2.473549D+00	1.170188D+03	1.704251D+03	4.107377D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.302539D-02	4.258528D-01	9.394717D-02	1.543860D-01
-1.304762D-03	1.413116D+00	1.966691D-03	-8.821617D-02
2.023655D-02	-6.671679D-02	-3.873806D-02	1.368212D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.240874D-01	-5.356309D+00	5.786176D-01	-4.909591D+00
4.304367D-03	-8.299490D-01	-1.829421D-03	2.910222D-01
-5.070732D-01	-7.322479D-01	2.800548D-02	-3.428368D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.665608D-03	-3.356582D-01	2.725236D-01	1.38753D-01
-2.209895D-03	-8.540475D-01	-2.294066D-03	-1.494130D-01
7.623071D-03	-2.512936D-01	1.394785D-03	5.154028D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-7.917654D-04	-1.931314D+00	1.710843D-01	8.345789D-02
-6.356460D-02	-1.157001D-01	8.751102D-01	-4.297660D+00
5.024526D-03	-3.300429D-01	-2.393578D-01	3.397127D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-7.826509D-04	-1.122046D+00	9.570037D-03	1.746451D-02
-1.122813D-02	1.049498D-01	3.679783D-01	-7.591462D-01
7.003886D-04	-8.049467D-02	-1.864721D-01	4.735391D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
2.830274D-04	4.418067D-02	4.553970D-02	-4.598829D-03
1.757987D-05	-1.835572D-01	9.769533D-03	1.188591D-03
7.874388D-04	-5.960712D-02	1.223748D-01	5.323945D-02

LONGITUDINAL		U	MU	W	ALPHA	Q	THETAC
CTF	0.116D-04	0.821D-02	0.847D-04	0.573D-02	0.136D-02	0.444D-01	
CTR	0.296D-04	0.288D-01	0.829D-04	0.560D-02	0.173D-02	0.323D-01	
CHF	0.322D-05	0.227D-02	0.781D-05	0.528D-03	0.468D-03	0.456D-02	
CHR	0.744D-05	0.525D-02	0.930D-05	0.629D-03	0.624D-04	0.445D-02	
A1F	0.455D-03	0.320D+00	0.306D-03	0.207D-01	0.110D+00	0.274D+00	
AIR	0.748D-03	0.528D+00	0.309D-03	0.209D-01	0.108D+00	0.253D+00	
VFR	-0.188D+00	-0.132D+03	0.348D+00	0.235D+02	0.629D+01	0.157D+03	
VRR	-0.694D-01	-0.489D+02	0.337D+00	0.228D+02	0.741D+01	0.661D+02	
LF			0.116D+02	0.782D+03			
DF			0.221D+00	0.149D+02			
MF			0.703D+02	0.476D+04			

LATERAL-DIRECTIONAL

		V	BETA	P	R	AIC
CYF	-0.253D-05	-0.171D-03	-0.394D-03	-0.111D-03	0.489D-02	
CYR	0.467D-05	0.316D-03	0.365D-03	0.291D-05	0.683D-02	
B1F	0.680D-03	0.466D-01	0.105D+00	-0.200D-01	0.104D+01	
B1R	-0.686D-03	-0.464D-01	0.116D+00	-0.264D-02	0.105D+01	
YF	-0.233D+02	-0.157D+94				
LF	-0.370D+02	-0.250D+04				
NF	-0.131D+02	-0.885D+03				
CTF			-0.165D-03			
CTR			-0.110D-03			

FORCE = 0.157031D+07

CASE 8

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	BICF	DICR	OMEGAF	OMEGA R
X	0.126D+02	0.193D+02	0.0	0.0
Z	0.135D+02	0.205D+02	0.0	0.0
H	-0.294D+01	0.149D+00	0.0	0.0
Y	-0.103D+01	0.336D+00	0.0	0.0
L	-0.231D+00	0.492D-01	0.0	0.0
N	-0.552D-01	0.460D-01	0.0	0.0
CTF	-0.598D-02	0.898D-05	0.0	0.0
CTR	-0.201D-02	-0.634D-02	0.0	0.0
CHF	-0.539D-02	0.121D-05	0.0	0.0
CHR	0.215D-03	-0.753D-02	0.0	0.0
AIF	-0.104D+01	0.155D-03	0.0	0.0
AIR	-0.542D-02	-0.106D+01	0.0	0.0
VFR	-0.211D+02	-0.914D-01	0.0	0.0
VRR	0.895D+01	-0.178D+02	0.0	0.0
QF	0.101D+01	-0.392D-02	0.0	0.0
QR	0.658D+00	-0.217D+01	0.0	0.0
QFU	QFP	QFDLB	QFDLTAC	
QFY	QFQ	QFDLS	QFBETA	
QFW	QFR	QFDLR	QFALPHA	
-0.371D-02	0.163D+01	0.384D+00	0.781D+00	
0.863D-03	0.292D+01	-0.546D-02	0.570D-01	
-0.141D-01	0.669D-02	-0.773D-02	-0.953D+00	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
0.425D-02	-0.533D+00	-0.929D+00	0.168D+01	
0.147D-02	0.405D+01	-0.742D-02	0.993D-01	
0.287D-01	0.820D+00	-0.116D-01	0.194D+01	

CASE 7

PAGE 3

V FE 6.00000D+01 4.40000D+01	RC ALPHA 0. 7.124392D+00	GW ALFF 1.750000D+04 -8.807578D-01	RHO THETA 1.546598D-03 7.194574D+00	XF LW LF LW 3.373248D+02 7.851622D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0. 0.	BETAF PHI 0. -1.481418D-01	PSI GAMMA -1.835867D-02 0. 0.	XR LW LR LW 2.308546D+03 9.385416D+03
THE0F THE0R 1.412529D+01 1.787986D+01	A1CF A1CR 2.180053D+00 1.497980D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.461281D+02 -1.143280D+01
THE1AC 1.600258D+01	DELTAB -3.845518D+00	DELTIAS 2.299286D-01	DELTAR 7.493809D-01	DELTAC 6.978740D+00
TF TR 7.858856D+03 9.664897D+03	HF HR -1.158279D+01 -7.200624D+01	YF YR 3.307627D+02 3.148832D+02	MHF MHR -1.335728D+02 -2.528399D+02	LHF LHR 1.750191D+03 1.438742D+03
QF QR 8.197830D+03 1.922054D+04	LFZ DFX 3.158363D+01 3.4468737D+02	YFY MF 2.905374D+01 -8.120481D+02	LF HF 8.596540D+01 1.805695D+02	RHPF RHPR 4.120834D+02 9.661662D+02
XR 3.883480D+02	L/DE 2.292135D+00	SHPTOT 1.478250D+03	WFF 1.479250D+03	NMLB 4.056110D-02
SIG0F SIG0R 5.841923D-02 5.841923D-02	CTSF CTSR 8.535418D-02 1.051439D-01	CPSF CPSR 3.504428D-03 8.216443D-03	AMTF AMTR 7.588455D-01 7.592575D-01	LAMDAF LAMDAR -2.517956D-02 -5.654893D-02
MUF MUR 1.436160D-01 1.437392D-01	VF VR 1.355097D+01 1.573745D+01	DFFR DFRF 1.796671D+00 1.608775D-38	DFF DFF 9.637931D-01	A0F A0R 2.898512D+00 3.789431D+00
A1F AIR -2.168766D-01 -4.105283D-01	B1F B1R 2.842873D+00 2.336668D+00	BETAOF BETAOR 3.038058D+00 4.094447D+00	B180F B180R 2.598220D+00 3.269003D+00	A270F A270R 6.496086D+00 9.128366D+00
CAPVF CAPVR 1.013364D+02 1.041687D+02	ALPHAF ALPHAR -2.375608D+00 -1.3339195D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.592485D+00 -2.861365D-01	BPTPF BPTPR 2.851133D+00 2.372456D+00

CASE 7

PAGE 4

	ZFF	MFF	TP
XFF	YFF	NFF	
LFF	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.651099D-01	8.558897D-02	1.759566D+00	
5.657742D-01	1.023086D-01	2.910975D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPP	SHPTOT	NMLB
	DELHPR	RHPR	MFF	RP
5.890213D+00	6.179736D+02	1.491181D+03	4.020961D-02	
7.040851D+00	9.732071D+02	1.492181D+03	7.036681D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

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CASE 9

PAGE 3

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW LF LW
8.00000D+01 4.40000D+01	0.0 5.229007D+00	1.750000D+04 8.5659569D-01	1.546598D-03 5.287867D+00	4.609548D+02 7.689986D+03
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.05000D+02 7.95000D+02	-2.190042D+01 0.0	0.0 -2.279371D-01	-2.013774D-02 0.0	1.471108D+03 9.607411D+03
THEOF THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFW
1.436694D+01 1.734667D+01	1.623669D+00 1.0066046D+00	2.800000D+00 4.000000D+00	2.800000D+00 4.000000D+00	6.263565D+02 9.584219D+01
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.585670D+01	-3.833749D+00	2.085568D-01	5.492615D-01	6.865662D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
7.702959D+03 9.718881D+03	1.130282D+02 9.932861D+01	2.514231D+02 2.3343313D+02	3.859225D+02 3.701224D+02	1.506114D+03 1.275581D+03
QF QR	LFZ DFX	YFY MF	LF HF	RHFF RHPR
8.458369D+03 1.699780D+04	1.525274D+02 6.150151D+02	5.345913D+01 -7.016657D+02	9.316152D+01 3.856736D+02	4.251791D+02 8.544348D+02
XR	L/DE	SHPTOT	WFF	HMPLB
6.620330D+02	3.532625D+00	1.379614D+03	1.380614D+03	5.794524D-02
SIGOF SIGOR	CITSF CTSR	CPSF CPSR	AMTF AMTR	LAMDAF LAMDAR
5.841923D-02 5.841923D-02	8.435170D-02 1.056945D-01	3.615795D-03 7.266259D-03	7.906116D-01 7.911225D-01	-2.849934D-02 -4.887734D-02
MUF MUR	VF VR	DFFR DFRF	DFF	A0F A0R
1.911205D-01 1.915612D-01	1.002941D+01 1.236400D+01	1.786583D+00 7.084644D-39	9.200334D-01	2.860872D+00 3.748967D+00
A1F AIR	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
6.266175D-01 6.009620D-01	2.446152D+00 2.071555D+00	2.069756D+00 2.949533D+00	3.338771D+00 4.158047D+00	7.422244D+00 1.012313D+01
CAPVFF CAPVRR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
1.351152D+02 1.3688460D+02	-4.27093D+00 -9.291190D+00	3.600000D+02 3.600000D+02	-3.644375D+00 -1.170031D+00	2.525135D+00 2.156964D+00

CASE 9

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
5.336145D-01	8.382700D-02	1.216197D+00	
5.333695D-01	1.047285D-01	2.033454D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
1.231261D+01	4.374917D+02	1.407309D+03	5.680571D-02
1.538264D+01	8.698174D+02	1.408309D+03	9.941000D+02

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.2333250D-02	3.038188D-01	1.598786D-03	4.889396D-01
-7.513064D-04	1.766520D+00	-2.099413D-03	-1.011271D-01
5.427254D-02	3.788789D-02	-4.407909D-02	7.305197D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.662624D-02	-3.414093D-01	6.156519D-01	-5.583088D+00
-2.395069D-03	-1.585627D+00	-1.303514D-02	3.223814D-01
-5.143268D-01	-6.205969D-01	5.732211D-02	-6.922947D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-4.100165D-03	1.156213D-01	3.273575D-01	1.728470D-01
-1.376181D-03	-1.017848D+00	-4.438745D-03	-1.852368D-01
1.642169D-02	-2.459472D-01	1.777378D-03	2.210393D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.937448D-04	-1.708108D+00	1.216202D-01	6.216071D-02
-8.385169D-02	-1.842825D-01	8.569165D-01	-1.128666D+01
8.371784D-03	-3.715449D-01	-1.618708D-01	1.126866D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-4.567357D-04	-9.835750D-01	5.032232D-03	2.347301D-02
-8.470574D-03	5.513541D-03	3.578663D-01	-1.140157D+00
1.056434D-03	-1.219221D-01	-1.613389D-01	1.421982D-01
MU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-6.627136D-05	4.441981D-03	4.008443D-02	-9.076161D-03
-2.686040D-03	-9.551375D-02	1.331948D-02	-3.615466D-01
1.765167D-04	-6.121512D-02	1.199012D-01	2.375952D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.954D-05	-0.672D-02	0.103D-03	0.139D-01	-0.156D-02	0.533D-01
CTR	0.121D-04	0.854D-02	0.630D-06	0.868D-02	0.221D-02	0.340D-01
CHF	0.188D-05	0.133D-02	0.444D-05	0.597D-03	-0.424D-03	0.322D-02
CHR	0.346D-05	0.244D-02	0.190D-05	0.255D-03	-0.184D-03	0.224D-02
AIF	0.365D-03	0.257D+00	0.671D-03	0.903D-01	-0.117D+00	0.579D+00
AIR	0.643D-03	0.453D+00	0.450D-03	0.605D-01	-0.988D-01	0.473D+00
VFR	-0.923D-01	-0.651D+02	0.206D+00	0.278D+02	-0.339D+01	0.108D+03
VRR	-0.599D-01	-0.422D+02	0.127D+00	0.171D+02	0.474D+01	0.622D+02
LF			0.205D+02	0.277D+04		
DF			-0.594D+00	-0.890D+02		
NF			0.165D+03	0.223D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.244D-05	-0.329D-03	-0.302D-03	-0.115D-03	0.505D-02
CYR	0.373D-05	0.502D-03	0.290D-03	0.132D-04	0.637D-02
B1F	-0.371D-03	-0.499D-01	-0.100D+00	-0.253D-01	0.103D+01
B1R	0.521D-03	0.701D-01	0.108D+00	0.600D-02	0.103D+01
YF	-0.359D+02	-0.483D+04			
LF	-0.138D+02	-0.186D+04			
NF	-0.277D+03	-0.373D+05			
CTF			-0.267D-03		
CTR			-0.253D-03		

FORCE = 0.157031D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.106D+02	0.143D+02	0.0	0.0
Z	0.278D+02	0.422D+02	0.0	0.0
H	-0.578D+01	0.187D+01	0.0	0.0
Y	-0.131D+01	0.520D+00	0.0	0.0
L	-0.456D+00	0.584D-01	0.0	0.0
N	-0.911D-02	0.737D-01	0.0	0.0
CTF	-0.141D-01	-0.290D-05	0.0	0.0
CTR	0.512D-02	-0.141D-01	0.0	0.0
CHF	-0.559D-02	-0.220D-06	0.0	0.0
CHR	0.135D-03	-0.672D-02	0.0	0.0
AIF	-0.111D+01	-0.417D-04	0.0	0.0
AIR	0.316D-01	-0.111D+01	0.0	0.0
VFR	-0.286D+02	0.268D-01	0.0	0.0
VRR	0.111D+02	-0.275D+02	0.0	0.0
QF	0.340D+01	0.837D-03	0.0	0.0
QR	0.111D+01	-0.316D+01	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	QFDELTAC
QFY	QFQ	QFDELS	QFBETA	QFBETA
QFW	QFR	QFDCLR	QFALPHA	QFALPHA
-0.155D-02	0.845D+00	0.336D+00	0.691D+00	0.691D+00
0.912D-03	0.193D+01	-0.123D-01	0.123D+00	0.123D+00
-0.257D-01	-0.145D+00	-0.187D-01	-0.346D+01	-0.346D+01
QRU	QRP	QRDELB	QRDELTAC	QRDELTAC
QRV	QRQ	QRDELS	QRFBETA	QRFBETA
QRW	QRR	QRDELR	QRFALPHA	QRFALPHA
0.198D-02	-0.515D+00	-0.822D+00	0.149D+01	0.149D+01
0.841D-03	0.750D+00	0.472D-02	0.113D+00	0.113D+00
0.153D-01	0.730D+00	-0.481D-02	0.206D+01	0.206D+01

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 3.032661D+00	XF LW LF LW
1.000000D+02 4.000000D+01	2.961041D+00	1.716436D-01	1.546598D-03 -1.560560D-02 0.0	6.199767D+02 7.576306D+03
VTF VTR	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -3.100212D-01	PSI GAMMA -1.560560D-02 0.0	XR LW LR LW 9.730689D+03
THEOF THEOR	AICF AICR 1.385345D+00 8.420972D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFW 9.755111D+02 1.303584D+02
1.502143D+01 1.756203D+01	1.629173D+01	DELTIAB -3.944128D+00	DELTAS 1.787228D-01	DELTAR 4.257386D-01
TF TR	HF HR 2.468369D+02 2.917345D+02	YF YR 2.247382D+02 2.071230D+02	MHF MHR 9.862456D+02 1.119359D+03	LHF LHR 1.389847D+03 1.252221D+03
QF QR	LFZ DFX 1.805763D+02 9.674748D+02	YFY MF 7.936601D+01 -1.581146D+03	LF NF 2.007931D+02 5.388623D+02	RHPP RHPR 4.870466D+02 8.787138D+02
9.689118D+03 1.748080D+04	1.019167D+03	L'DE 4.661628D+00	SHPTOT 1.465760D+03	WFF NMLB 6.817746D-02
SIGOF SIGOR	CTS CTS 8.250241D-02 1.073846D-01	CPS CPS 4.141927D-03 7.472732D-03	AMIF AMIR 8.224056D-01 8.232801D-01	LAMDAF LANDAR -3.853007D-02 -5.084318D-02
5.841923D-02 5.841923D-02	MUF MUR 7.930220D+00 1.008884D+01	DFFR DFRF 1.747677D+00 1.752694D-39	DFF 9.122845D-01 8.232801D-01	AOF AOR 2.794333D+00 3.789394D+00
A1F AIR	B1F BIR 2.257216D+00 2.033602D+00	BETAOF BETAOR 9.542303D-01 1.651435D+00	B180F B180R 4.174348D+00 5.311039D+00	A270F A270R 8.509979D+00 1.160556D+01
1.601531D+00 1.817757D+00	CAPVF CAPVR -6.538959D+00 -6.691773D+00	BETAF ALPHAR 3.600000D+02 3.600000D+02	ATIPF ATIPR -4.937428D+00 -2.221210D+00	BPTPF BPTPR 2.767657D+00 2.727596D+00
1.688940D+02 1.704318D+02				

PAGE 4

CASE 8

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.02832D-01	8.258781D-02	7.201919D-01		
5.013536D-01	1.060723D-01	1.340670D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.325058D+01	5.102971D+02	1.518873D+03	6.579497D-02	
2.986207D+01	9.085759D+02	1.519873D+03	1.151412D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 1.120000D+02 4.400000D+01	RC ALPHA 0.0 1.498036D+00	GW ALFF 1.750000D+04 -7.4425898D-01	RHO THETA 1.546598D-03 1.538058D+00	XF LW LF LW 7.056416D+02 7.543292D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -3.837659D-01	PSI GAMMA -9.841181D-03 0.0	XR LW LR LW 1.151527D+03 9.809496D+03
THEOF THEOR 1.567041D+01 1.790235D+01	A1CF A1CR 1.319250D+00 8.275693D-01	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFFW 1.222098D+03 9.493872D+01
THETAC 1.678638D+01	DELTAB -3.906059D+00	DEL TAS 1.613866D-01	DELTAR 4.211697D-01	DELTAC 7.586343D+00
TF TR 7.568076D+03 9.868458D+03	HF HR 3.513084D+02 4.071553D+02	YF YR 2.222676D+02 2.049993D+02	MHF MHR 1.443954D+03 1.615362D+03	LHF LHR 1.3448675D+03 1.3448675D+03
QF QR 1.097538D+04 1.878043D+04	LFZ DFX 1.268552D+02 1.219199D+03	YFY MF 1.021610D+02 -2.756694D+03	LF NF 2.979661D+02 6.424286D+02	RHPF RHPR 5.517035D+02 9.440432D+02
XR 1.246549D+03	L/DE 5.157374D+00	SHPTOT 1.595747D+03	WFF 1.596747D+03	NMLB 7.014262D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 8.297046D-02 1.081219D-01	CPSF CPSF 4.691781D-03 8.028305D-03	AMTF AMTR 8.415785D-01 8.427375D-01	LAMDAF LANDAR -4.736936D-02 -5.548091D-02
MUF MUR 2.657014D-01 2.670777D-01	VF VR 7.062786D+00 9.096917D+00	DFFR DFRF 1.682097D+00 2.723933D-41	DFF 9.153800D-01	A0F A0R 2.828122D+00 3.815689D+00
A1F AIR 2.345137D+00 2.623707D+00	B1F B1R 2.329866D+00 2.190317D+00	BETAOF BETAOR 1.697029D-01 7.913592D-01	B180F B180R 4.891918D+00 6.071621D+00	A270F A270R 9.442717D+00 1.262687D+01
CAPVF CAPVR 1.891613D+02 1.906674D+02	ALPHAF ALPHAR -8.001964D+00 -9.05739D+00	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -5.656827D+00 -2.878256D+00	BPTPF BPTPR 3.305742D+00 3.417796D+00

CASE 10

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _A	A90RA	
4.842563D-01	8.222793D-02	4.859578D-01	
4.822773D-01	1.069314D-01	9.6333561D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
3.166955D+01	5.833730D+02	1.668600D+03	6.708193D-02
4.118392D+01	9.852271D+02	1.669600D+03	1.173936D+03

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Volume 4

STABILITY DERIVATIVES OUTPUT

	MASS	IXX	IYY	IZZ
XU	5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XV	XP	XDELB	XDELTAC	
XW	XQ	XDELS	XBETA	
-4.058569D-02	3.380914D-01	-5.218947D-03	3.688790D-01	
-7.172832D-04	1.245952D+00	-2.544889D-03	-1.356649D-01	
4.829042D-02	1.167099D-02	-5.847004D-02	9.133513D+00	
ZU	ZP	ZDELB	ZDELTAC	
ZV	ZQ	ZDELS	ZBETA	
ZW	ZR	ZDELR	ZALPHA	
9.299792D-03	-8.812683D-01	4.836907D-01	-6.559883D+00	
4.242992D-03	-1.8827817D+00	-1.264229D-02	8.025075D-01	
-6.126975D-01	-5.856489D-01	8.971352D-02	-1.158839D+02	
MU	MP	MDELB	MDELTAC	
MV	MQ	MDELS	MBETA	
MW	MR	MDELR	MALPHA	
-3.050245D-03	1.328223D-01	3.495545D-01	1.782986D-01	
-1.015924D-03	-1.000672D+00	-5.045245D-03	-1.921490D-01	
1.531532D-02	-2.730563D-01	3.773130D-03	2.896697D+00	
YU	YP	YDELB	YDELTAC	
YY	YQ	YDELS	YBETA	
YW	YR	YDELR	YALPHA	
1.409796D-03	-1.252384D+00	8.668914D-02	7.020149D-02	
-1.119750D-01	-1.891395D-01	8.616181D-01	-2.117864D+01	
4.972672D-03	-2.577963D-01	-1.644140D-01	9.405173D-01	
LU	LP	LDELB	LDELTAC	
LV	LQ	LDELS	LBETA	
LW	LR	LDELR	LALPHA	
1.225308D-04	-8.426133D-01	-1.503988D-02	2.417239D-02	
-9.90715D-03	-3.016521D-02	3.605248D-01	-1.873917D+00	
1.647618D-03	-6.377593D-02	-1.521088D-01	3.116259D-01	
NU	NP	NDELB	NDELTAC	
NV	NQ	NDELS	NBETA	
NW	NR	NDELR	NALPHA	
-2.252760D-04	5.555583D-03	5.620808D-02	-1.454323D-02	
-3.500338D-03	-7.437870D-02	1.246805D-02	-6.620441D-01	
-6.033337D-04	-7.079540D-02	1.163958D-01	-1.141128D-01	

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.107D-04	-0.753D-02	0.110D-03	0.208D-01	-0.154D-02	0.591D-01
CTR	0.461D-05	0.325D-02	0.837D-04	0.158D-01	0.225D-02	0.430D-01
CHF	0.154D-05	0.108D-02	0.836D-05	0.158D-02	-0.396D-03	0.552D-02
CHR	0.319D-05	0.225D-02	0.391D-05	0.760D-03	-0.219D-04	0.387D-02
A1F	0.359D-03	0.253D+00	0.964D-03	0.182D+00	-0.120D+00	0.845D+00
AIR	0.621D-03	0.438D+00	0.768D-03	0.145D+00	-0.928D-01	0.728D+00
VFR	-0.523D-01	-0.369D+02	0.161D+00	0.304D+02	-0.234D+01	0.860D+02
VRR	-0.395D-01	-0.279D+02	0.122D+00	0.231D+02	-0.342D+01	0.605D+02
LF		0.295D+02	0.558D+04			
DF		-0.785D+00	-0.148D+03			
MF		0.225D+03	0.426D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.256D-05	-0.485D-03	-0.214D-03	-0.936D-04	0.501D-02
CYR	0.377D-05	0.713D-03	0.220D-03	-0.424D-05	0.634D-02
B1F	-0.273D-03	-0.517D-01	-0.974D-01	-0.217D-01	0.103D+01
B1R	0.380D-03	0.719D-01	0.105D+00	0.245D-02	0.969D+00
YF	-0.510D+02	-0.964D+04			
LF	-0.320D+02	-0.605D+04			
NF	-0.356D+03	-0.673D+05			
CTF			-0.303D-03		
CIR			-0.496D-03		

FORCE = 0.157031D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.913D+01	0.149D+02	0.0	0.0
Z	0.461D+02	0.616D+02	0.0	0.0
H	-0.774D+01	0.315D+01	0.0	0.0
Y	-0.158D+01	0.859D+00	0.0	0.0
L	-0.346D+00	0.218D+00	0.0	0.0
N	-0.283D+00	0.172D+00	0.0	0.0
CTF	-0.210D-01	-0.163D-05	0.0	0.0
CTR	0.552D-02	-0.208D-01	0.0	0.0
CHF	-0.626D-02	-0.151D-06	0.0	0.0
CHR	0.232D-03	-0.776D-02	0.0	0.0
AIF	-0.120D+01	-0.156D-04	0.0	0.0
AIR	0.458D-01	-0.120D+01	0.0	0.0
VFR	-0.304D+02	0.132D-01	0.0	0.0
VRR	0.646D+01	-0.298D+02	0.0	0.0
QF	-0.147D+01	0.139D-03	0.0	0.0
QR	0.313D+01	-0.718D+01	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFY	QFQ	QFDELS	QFBETA	
QFM	QFR	QFDELR	QFALPHA	
-0.318D-02	0.649D+00	0.446D+00	0.980D+00	
0.429D-03	0.241D+01	-0.137D-01	0.811D-01	
-0.836D-02	-0.321D+00	-0.196D-01	-0.158D+01	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
0.371D-02	-0.380D+00	-0.117D+01	0.188D+01	
0.111D-02	0.979D+00	0.145D-03	0.210D+00	
0.471D-01	0.948D+00	0.805D-01	0.891D+01	

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	60 kt	-2067 ft/min	0 deg	
	80	-2282		X
	100	-2875		
	120	-3987		
	60	2774		
	80	2547		X
	100	2186		
	120	1517		

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFFF	THETA	LF LW
6.350000D+01	-2.067000D+03	1.750000D+04	2.378000D-03	-1.759397D+03
4.400000D+01	2.097616D+01	1.695871D+01	2.273440D+00	6.503186D+03
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	-6.400414D-02	-2.368837D+03
7.050000D+02	0.0	-1.707091D-01	-1.873666D+01	9.500941D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFW
7.538760D+00	9.307894D-02	-2.500000D+00	-2.500000D+00	7.816693D+02
9.447891D+00	-5.591177D-02	-2.500000D+00	-2.500000D+00	7.7566623D+02
THEIAC	DELTAB	DELTIAS	DELTAR	DELTAC
8.493296D+00	-2.8555392D+00	5.134689D-02	1.083889D-02	1.157593D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
6.723222D+03	4.3034666D+02	-6.223899D+00	1.99214D+03	2.758374D+02
9.765003D+03	7.238738D+02	-1.848707D+01	2.426346D+03	3.267604D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	NF	NF	RHPR
-1.012573D+03	1.004080D+03	6.026168D+01	-9.582542D+01	-5.089938D+01
-1.3339767D+03	4.521964D+02	6.637528D+03	3.625399D+01	-6.734657D+01
XR	L/DE	SHPTOT	WFF	NMLB
-4.820267D+03	3.702374D+00	-1.824596D+01	-1.724596D+01	-3.486894D+00
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS	CPS	AMIR	LANDAR
5.841923D-02	4.801855D-02	-2.815205D-04	7.247509D-01	1.988462D-02
5.841923D-02	6.954498D-02	-3.724886D-04	7.238444D-01	1.008844D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.490830D-01	7.319257D+00	1.092994D+00	8.675647D-01	1.994464D+00
1.476209D-01	1.078985D+01	0.0		3.308074D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.247772D+00	4.478693D-01	-1.297761D+00	5.198477D+00	1.643854D+00
3.942660D+00	5.305536D-01	-7.032018D-01	7.178741D+00	3.707732D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.072477D+02	1.147616D+01	3.600000D+02	1.472394D+01	3.278507D+00
1.056013D+02	9.760372D+00	3.600000D+02	1.791882D+01	3.978197D+00

PAGE 4

CASE 9

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR P	A90RA	
5.381654D-01	4.610522D-02	3.59747D+02	
5.383578D-01	6.735821D-02	6.095689D-01	

NON UNIFORM DOMINANT POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHPR	NFF	RP
5.847039D+00	-4.505234D+01	-3.856585D+00	-2.222934D+01
8.542332D+00	-5.880424D+01	-2.856585D+00	-3.890135D+05

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 11

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
8.320000D+01	-2.282000D+03	1.750000D+04	2.378000D-03	-1.20669D+03
4.400000D+01	1.788305D+01	1.563737D+01	2.219813D+00	6.400961D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	-9.846453D-02	-1.807731D+03
7.050000D+02	0.0	-3.162685D-01	-1.570365D+01	9.260695D+03
THE0F	A1CF	B1TF	B1CF	DFW
THE0R	A1CR	B1TR	B1CR	LFW
7.598184D+00	-3.393968D-01	-8.000000D-01	-8.000000D-01	1.276717D+03
8.969194D+00	-4.690230D-01	-8.000000D-01	-8.000000D-01	1.306588D+03
THETAC	DELIAB	DELIAS	DELTAR	DELIAC
8.283689D+00	-3.013310D+00	4.468189D-02	-1.5565556D-01	9.951077D-01
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
6.507616D+03	2.546426D+02	-4.798878D+01	1.046936D+03	1.048351D+02
9.404197D+03	4.684306D+02	-7.418891D+01	1.518188D+03	2.090826D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
-4.681699D+02	1.635508D+03	7.264252D+01	-1.738120D+02	-2.353367D+01
-2.2266755D+03	8.138120D+02	1.062730D+04	2.009610D+02	-1.119331D+02
XR	L'DE	SHPTOT	WFF	NMLB
-3.436233D+03	5.307188D+00	-3.546682D+01	-3.446682D+01	-2.323815D+00
SIG0F	CISF	CPSF	AMIF	LAMDAF
SIG0R	CTSR	CPSR	AMIR	LAMNDAR
5.841923D-02	4.636797D-02	-1.301629D-04	7.546973D-01	2.143701D-02
5.841923D-02	6.683269D-02	-6.190934D-04	7.534463D-01	1.716327D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
1.971893D-01	5.373317D+00	1.228931D+00	8.662997D-01	1.875141D+00
1.957341D-01	7.827248D+00	6.873521D-38		3.073206D+00
A1F	B1F	BETAF	B180F	A270F
AIR	B1R	BETAR	B180R	A270R
1.700113D+00	1.702163D-01	1.045762D-01	3.505061D+00	1.929385D+00
2.4665775D+00	3.394799D-01	4.856101D-01	5.423392D+00	3.938349D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPPR
1.405198D+02	8.383048D+00	3.453510D-17	1.008316D+01	1.708613D+00
1.394239D+02	8.217233D+00	3.479186D-17	1.334882D+01	2.489034D+00

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NADC-81118-60
Volume 4

PAGE 4

CASE 11

	XFF	ZFF	NFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
5.068726D-01		CTFP	A90F	
5.074283D-01		CTR P	A90RA	
		4.538048D-02	3.595559D+02	
		6.551316D-02	1.106632D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHRP	WFF	RP
1.112021D+01	-1.241347D+01	-8.293011D+00	-1.140818D+01
1.605360D+01	-9.587955D+01	-7.293011D+00	-1.996432D+05

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.375251D-02	2.694718D-01	1.466294D-01	6.584259D-01
1.076400D-03	2.252729D+00	-1.03920D-04	1.439817D-01
7.747241D-02	3.496972D-02	-4.216259D-02	1.036289D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.324164D-03	1.833234D+00	6.360355D-01	-9.010966D+00
-2.146724D-03	-1.164579D-01	-5.090875D-03	-2.871507D-01
-8.521258D-01	-6.392303D-01	2.076064D-02	-1.139823D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-5.169249D-03	3.208450D-01	4.734423D-01	2.280597D-01
1.328681D-04	-1.460866D+00	-1.417554D-03	1.777273D-02
2.322943D-02	-8.442974D-02	2.169258D-03	3.107221D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.355085D-03	-2.706531D+00	-1.675719D-02	-1.674393D-02
-1.392085D-01	3.732028D-01	7.684432D-01	-1.862084D+01
-1.846109D-03	-2.691089D-01	-2.297610D-01	-2.469398D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.120745D-03	-1.013077D+00	3.322606D-02	2.101623D-02
9.835735D-04	4.670493D-02	3.370976D-01	1.315650D-01
1.890041D-03	-8.003643D-02	-1.678320D-01	2.528162D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
8.536976D-04	-6.916390D-02	-2.480472D-02	-1.879283D-02
-4.342210D-03	2.314828D-03	7.785915D-03	-5.808239D-01
-1.248160D-03	-2.738495D-02	1.074514D-01	-1.669567D-01

LONGITUDINAL

	<i>U</i>	<i>MU</i>	<i>W</i>	<i>ALPHA</i>	<i>Q</i>	THETAC
CTF	-0.109D-04	-0.768D-02	0.104D-03	0.139D-01	-0.175D-02	0.529D-01
CTR	0.541D-05	0.382D-02	0.728D-04	0.973D-02	0.186D-02	0.388D-01
CHF	-0.335D-07	-0.236D-04	0.467D-05	0.624D-03	0.351D-03	0.319D-02
CHR	0.125D-05	0.879D-03	0.480D-05	0.641D-03	-0.226D-03	0.367D-02
AIF	0.377D-04	0.266D-01	0.630D-03	0.843D-01	-0.802D-01	0.587D+00
AIR	0.245D-03	0.173D+00	0.467D-03	0.625D-01	0.605D-01	0.590D+00
VFR	-0.592D-01	-0.418D+02	0.198D+00	0.264D+02	-0.342D+01	0.106D+03
VRR	-0.463D-01	-0.326D+02	0.137D+06	0.183D+02	0.368D+01	0.790D+02
LF			0.385D+02	0.515D+04		
DF			-0.195D+01	-0.260D+03		
MF			0.305D+03	0.408D+05		

LATERAL-DIRECTIONAL

	<i>V</i>	<i>BETA</i>	<i>P</i>	<i>R</i>	AIC
CYF	-0.494D-06	-0.661D-04	-0.268D-03	-0.461D-04	0.274D-02
CYR	0.102D-05	0.136D-03	0.342D-03	0.145D-04	0.396D-02
B1F	0.103D-03	0.138D-01	-0.653D-01	-0.105D-01	0.102D+01
B1R	-0.980D-04	-0.131D-01	0.661D-01	0.249D-02	0.102D+01
YF	-0.721D+02	-0.964D+04			
LF	0.561D+02	0.751D+04			
NF	-0.459D+03	-0.614D+05			
CTF					-0.659D-04
CTR					-0.769D-04

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.503D+01	0.136D+02	0.0	0.0
Z	0.485D+02	0.634D+02	0.0	0.0
H	-0.791D+01	0.339D+01	0.0	0.0
Y	0.615D+00	-0.461D+00	0.0	0.0
L	-0.732D+00	0.434D+00	0.0	0.0
N	0.715D+00	-0.554D+00	0.0	0.0
CTF	-0.144D-01	-0.892D-07	0.0	0.0
CTR	0.368D-02	-0.140D-01	0.0	0.0
CHF	-0.334D-02	-0.700D-07	0.0	0.0
CHR	0.242D-03	-0.480D-02	0.0	0.0
AIF	-0.111D+01	-0.180D-04	0.0	0.0
AIR	0.219D-01	-0.110D+01	0.0	0.0
VFR	-0.288D+02	0.484D-02	0.0	0.0
VRR	0.727D+01	-0.283D+02	0.0	0.0
QF	0.160D+02	0.498D-03	0.0	0.0
QR	-0.480D+01	0.181D+02	0.0	0.0
QFU	QFP	QFDELB	QFDLTAC	
QFY	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
0.126D-01	-0.455D+00	-0.315D+00	-0.630D+00	
-0.641D-03	0.364D+01	-0.595D-02	-0.857D-01	
-0.115D+00	-0.197D+00	-0.827D-02	-0.154D+02	
QRU	QRP	QRDELB	QRDLTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.975D-02	0.109D+01	0.439D+00	-0.984D-01	
-0.123D-02	0.124D+00	0.677D-02	-0.164D+00	
-0.956D-01	0.128D+00	-0.141D-01	-0.128D+02	

ν	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.041000D+02	-2.875000D+03	1.750000D+04	2.378000D-03	-9.029539D+02
4.400000D+01	1.803203D+01	1.667665D+01	2.298366D+00	5.998181D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	-1.681994D-01	-1.532381D+03
7.050000D+02	0.0	-4.822582D-01	-1.581515D+01	8.678855D+03
THE0F	AICF	BITF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LF FW
7.387276D+00	-7.153574D-01	1.600000D+00	1.600000D+00	2.050763D+03
8.244893D+00	-8.6336645D-01	1.600000D+00	1.600000D+00	2.220356D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
7.816084D+00	-3.002830D+00	4.441138D-02	-3.296814D-01	6.326234D-01
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
6.065766D+03	3.057394D+00	-8.095294D+01	-4.146762D+02	-9.444617D+01
8.812707D+03	8.3157386D+01	-1.222470D+02	5.192430D+01	3.851068D+01
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.090031D+01	2.746111D+03	1.124888D+02	-2.660358D+02	1.050604D+00
-3.108020D+03	1.262729D+03	1.809588D+04	1.463526D+02	-1.562320D+02
XR	L'DE	SHPTOT	WFF	NMLB
-2.670954D+03	7.004666D+00	-5.518144D+01	-5.418144D+01	-1.848592D+00
SIG0F	CTSF	CPSF	AMIF	LAMDAF
SIG0R	CTSR	CPSR	AMIR	LAMDAR
5.841923D-02	4.312745D-02	5.810806D-06	7.862794D-01	3.132920D-02
5.841923D-02	6.256461D-02	-8.641071D-04	7.844557D-01	3.255293D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
2.466282D-01	3.997758D+00	1.213401D+00	8.822738D-01	1.673973D+00
2.447796D-01	5.843537D+00	1.512454D-35		2.771821D+00
AI F	B1F	BETA0F	B180F	A270F
AI R	B1R	BETA0R	B180R	A270R
-6.733066D-01	-1.533482D-01	2.220880D+00	8.925854D-01	1.952813D+00
8.430717D-02	6.252806D-02	2.482886D+00	2.675156D+00	3.909647D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.758187D+02	8.532028D+00	3.600000D+02	7.858722D+00	6.905485D-01
1.749552D+02	9.472585D+00	3.600000D+02	1.111634D+01	1.049641D-01

CASE 10

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.750046D-01	4.252492D-02	3.592832D+02	
4.758843D-01	6.152992D-02	3.596292D+02	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.036941D+01	2.142002D+01	-5.339229D+00	-2.399043D+01	
2.947280D+01	-1.267592D+02	-4.339229D+00	-4.198326D+05	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 11

PAGE 3

V FE 1.265000D+02 4.400000D+01	RC -3.987000D+03 1.941095D+01	GW ALFF 1.750000D+04 1.859074D+01	RHO THETA 2.378000D-03 1.279146D+00	XF LW LF LW 5.067007D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -7.480602D-01	PSI GAMMA -2.563453D-01 -1.812079D+01	XR LW LR LW -1.357359D+03 7.922761D+03
THEOF THEOR 6.354232D+00 7.278926D+00	AICF AICR -9.491497D-01 -9.501957D-01	BITF BITR 2.800000D+00 4.000000D+00	BICF BICR 2.800000D+00 4.000000D+00	DFW LFFW 3.210994D+03 3.659059D+03
THETAC 6.806579D+00	DELTAB -3.415253D+00	DELTAS 1.325390D-02	DELTAR -4.019255D-01	DELTAC -1.499389D-01
TF TR 5.123395D+03 8.0333908D+03	HF HR -1.666133D+02 -2.624709D+02	YF YR -8.231999D+01 -1.544362D+02	MHF MHR -1.416923D+03 -1.592191D+03	LHF LHR -2.487287D+02 -7.033850D+01
QF QR 2.686637D+02 -3.727228D+03	LFZ DFX 6.518221D+03 1.812421D+03	YFY NF 1.608715D+02 3.028677D+04	LF NF -3.803326D+02 -2.319506D+02	RHPF RHPR 1.350502D+01 -1.873580D+02
XR -2.237279D+03	L/DE 8.548429D+00	SHPTOT -7.385298D+01	WFF -7.285298D+01	HMLB -1.650255D+00
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 3.651582D-02 5.664408D-02	CPSF CPSR 7.469520D-05 -1.036262D-03	AMTF AMTR 8.204742D-01 8.191210D-01	LAMDAF LANDAR 4.823161D-02 5.452568D-02
MUF NUR 2.985283D-01 2.959690D-01	VF VR 2.769753D+00 4.364072D+00	DFFR DFRF 1.124145D+00 3.713405D-35	DFF -9.046353D-01	AOF AOR 1.194531D+00 2.457233D+00
A1F AIR -2.301212D+00 -2.586046D+00	B1F BIR -4.038529D-01 -1.142055D-01	BETAOF BETAOR 3.401179D+00 4.773217D+00	B180F B180R -1.193089D+00 -3.154299D-01	A270F A270R 1.295817D+00 3.688244D+00
CAPVF CAPVR 2.136509D+02 2.130034D+02	ALPHAF ALPHAR 9.910953D+00 1.159297D+01	BETAFW BETARW 1.513471D-16 1.526559D-16	ATIPF ATIPR 7.609741D+00 9.824906D+00	BPTPF BPTPR 2.336381D+00 2.588567D+00

CASE 11

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.423273D-01	3.592323D-02	3.588861D+02	
4.434228D-01	5.616949D-02	3.593106D+02	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPP	SHTOT	HMLB
DELHPR	RHPR	WFF	RP
2.877550D+01	4.228052D+01	-8.416981D-02	1.381260D+02
4.499331D+01	-1.423647D+02	9.158302D-01	2.417206D+06

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 12

PAGE 3

V FE 6.610000D+01 4.400000D+01	RC ALPHA 2.774000D+03 -2.397299D+01	GW ALFF 1.750000D+04 -2.903917D+01	RHO THETA 2.378000D-03 5.128361D-01	XF LW LF LW 3.904664D+03 7.414497D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -4.676736D-01	PSI GAMMA 2.016112D-01 2.446471D+01	XR LW LR LW 5.066029D+03 9.919136D+03
THEOF THEOR 1.779935D+01 1.915871D+01	AICF AICR 1.609212D+00 7.903430D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 1.314471D+03 -1.603882D+03
THETAC 1.847903D+01	DELTAB -2.425170D+00	DELTIAS 2.703405D-01	DELTAR 4.712514D-01	DELIAC 8.898474D+00
TF TR 8.338017D+03 1.107334D+04	HF HR 8.358478D+02 1.197960D+03	YF YR 2.914588D+02 2.233908D+02	MHF MHR 3.680367D+03	LHF LHR 1.365753D+03 9.594943D+02
QF QR 2.273210D+04 3.057465D+04	LFZ DFX -1.999603D+03 5.494138D+02	YFY MF 7.965919D+01 -1.338424D+04	LF NF 3.084529D+02 -8.752966D+02	RHPF RHPR 1.142683D+03 1.536908D+03
XR 8.573135D+03	L/DE 3.417444D+00	SHP101 2.779590D+03	WFF 2.780590D+03	NMLB 2.163760D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS2 5.92427D-02 7.911752D-02	CPSF CPSR 6.320089D-03 8.500514D-03	AMIF AMIR 7.238540D-01 7.269178D-01	LAMDAF LANDAR -9.91350D-02 -1.039653D-01
MUF MUR 1.320896D-01 1.357735D-01	VF VR 8.264887D+00 1.058490D+01	DFFR DFRF 6.357703D-01 5.274593D-03	DFF 1.196400D+00	AOF AOR 3.478990D+00 4.663318D+00
A1F AIR 5.397661D+00 5.986533D+00	B1F B1R 2.218066D+00 1.558080D+00	BETAOF BETAOR -1.979232D+00 -1.390841D+00	B180F B180R 8.797505D+00 1.054589D+01	A270F A270R 6.446060D+00 8.191339D+00
CAPVF CAPVR 1.116698D+02 1.144318D+02	ALPHAF ALPHAR -3.349695D+01 -3.322938D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR 3.319247D+02 3.350135D+02	BTPPF BTPPR 5.835628D+00 6.185967D+00

CASE 12

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
5.441927D-01	5.256608D-02	2.219137D+00		
5.412250D-01	7.032305D-02	2.892302D+00		

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PAGE 4

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	HMLB
	DELHPR	RHPR	WFF	RP
7.486602D+00	1.150169D+03	2.797093D+03	2.362323D-02	
1.061560D+01	1.546923D+03	2.798093D+03	6.134066D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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PAGE 3

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFFF	THETA	LF LW
8.400000D+01	2.547000D+03	1.750000D+04	2.376000D-03	3.214017D+03
4.400000D+01	-1.738024D+01	-2.061603D+01	6.595308D-02	6.009524D+03
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	1.831181D-01	3.938664D+03
7.050000D+02	0.0	-6.093644D-01	1.741049D+01	1.031600D+04
THE0F	AICF	B1TF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFFW
1.805238D+01	1.113077D+00	-8.000000D-01	-8.000000D-01	1.536039D+03
1.906952D+01	4.270150D-01	-8.000000D-01	-8.000000D-01	-1.765014D+03
THE7AC	DELTAB	DELTAIS	DELTAR	DELTAC
1.856095D+01	-2.736420D+00	2.179324D-01	2.799672D-01	8.961977D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.597169D+03	7.556887D+02	2.398635D+02	2.852719D+03	1.148220D+03
1.099213D+04	1.051618D+03	1.724726D+02	3.252546D+03	9.000275D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
2.330866D+04	-2.143262D+03	1.261819D+02	4.500570D+02	1.171665D+03
2.945283D+04	9.386780D+02	-1.659601D+04	-8.386989D+02	1.480516D+03
XR	L/DE	SHPTOT	WF	NMLB
6.792580D+03	4.513829D+00	2.752182D+03	2.753182D+03	2.911235D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	6.090597D-02	6.480388D-03	7.518982D-01	-1.007139D-01
5.841923D-02	7.811548D-02	8.188619D-03	7.549031D-01	-1.029637D-01
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
1.794926D-01	6.838476D+00	8.006051D-01	1.111938D+00	3.545630D+00
1.832904D-01	8.550825D+00	2.413965D-03		4.531191D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.636891D+00	1.864642D+00	-1.265371D+00	8.017634D+00	7.103760D+00
5.288518D+00	1.461492D+00	-9.227099D-01	9.662617D+00	9.061550D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.618803D+02	-2.688770D+01	3.600000D+02	3.377566D+02	4.997764D+00
1.442172D+02	-2.636180D+01	3.600000D+02	3.409083D+02	5.486746D+00

CASE 12

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CTR	A90RA		
5.146409D-01	5.678460D-02	1.778919D+00		
5.114618D-01	7.313666D-02	2.172561D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.435672D+01	1.186022D+03	2.785029D+03	3.015044D-02	
1.849098D+01	1.499007D+03	2.786029D+03	5.276326D+02	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.678648D-02	3.445356D-01	1.696789D-01	2.702992D-01
-2.568419D-03	-2.489143D-01	1.751452D-03	-3.452619D-01
3.850308D-02	-1.770531D-01	-2.544679D-02	5.216428D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
4.644863D-03	-7.201699D-01	3.741313D-01	-9.670608D+00
-6.124435D-03	4.369312D-01	-1.670718D-05	-5.587819D-01
-9.131323D-01	-5.321237D-01	6.049751D-02	-1.237119D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.849215D-03	1.239791D-01	4.569184D-01	2.033908D-01
-1.585272D-03	-1.265471D+00	-6.380672D-03	-2.147740D-01
1.859934D-02	-3.900731D-01	2.554193D-03	2.519853D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.770740D-03	-1.051700D-01	1.296903D-01	8.035872D-02
-1.627658D-01	-8.465166D-02	9.951344D-01	-2.205164D+01
5.295478D-03	-1.793456D-01	-1.960052D-01	7.174357D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.491464D-05	-4.298324D-01	-2.903637D-02	-1.359312D-02
-1.914812D-02	1.951071D-01	3.985094D-01	-2.594203D+00
-1.3339901D-03	8.180590D-04	-1.895422D-01	-1.815309D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.192038D-04	5.190909D-02	7.954738D-02	1.558676D-02
8.040772D-04	-2.814938D-01	1.457298D-02	1.089370D-01
2.484695D-03	-9.001833D-02	1.398343D-01	3.366285D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.466D-05-0	328D-02	0.101D-03	0.137D-01-0	171D-02	0.532D-01
CTR	0.650D-05	0.458D-02	0.866D-04	0.117D-01	0.160D-02	0.452D-01
CHF	0.156D-05	0.110D-02	0.942D-05	0.128D-02	0.144D-03	0.582D-02
CHR	0.341D-05	0.240D-02	0.951D-05	0.129D-02	0.112D-03	0.586D-02
A1F	0.467D-03	0.329D+00	0.624D-03	0.845D-01	0.833D-01	0.559D+00
AIR	0.608D-03	0.429D+00	0.548D-03	0.743D-01	0.680D-01	0.532D+00
VFR	-0.523D-01-0	0.369D+02	0.204D+00	0.277D+02-0	0.361D+01	0.998D+02
YRR	-0.384D-01-0	0.271D+02	0.175D+00	0.238D+02	0.335D+01	0.804D+02
LF			0.424D+02	0.575D+04		
DF			-0.475D+00	-0.644D+02		
NF			0.232D+03	0.315D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.210D-05-0	285D-03	0.295D-04-0	0.568D-04	0.379D-02
CYR	0.289D-05	0.392D-03	0.533D-04-0	0.163D-04	0.483D-02
BIF	0.110D-03	0.149D-01	0.699D-01-0	0.178D-01	0.105D+01
BIR	-0.106D-03	0.143D-01	0.760D-01-0	0.286D-02	0.105D+01
YF	-0.765D+02-0	0.104D+05			
LF	-0.155D+03-0	0.210D+05			
NF	0.103D+03	0.140D+05			
CTF			-0.113D-03		
CTR			-0.229D-03		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.123D+02	0.202D+02	0.0	0.0
Z	0.524D+02	0.617D+02	0.0	0.0
H	-0.726D+01	0.297D+01	0.0	0.0
Y	-0.150D+01	0.378D+00	0.0	0.0
L	0.703D-01	-0.877D-01	0.0	0.0
N	-0.566D+00	0.363D+00	0.0	0.0
CTF	-0.134D-01	0.168D-05	0.0	0.0
CTR	0.197D-02	-0.135D-01	0.0	0.0
CHF	-0.502D-02	0.115D-06	0.0	0.0
CHR	0.208D-03	-0.624D-02	0.0	0.0
AIF	-0.112D+01	0.682D-05	0.0	0.0
AIR	0.108D-01	-0.112D+01	0.0	0.0
VFR	-0.251D+02	-0.118D-01	0.0	0.0
VRR	0.415D+01	-0.248D+02	0.0	0.0
QF	-0.120D+02	0.136D-02	0.0	0.0
QR	0.156D+01	-0.119D+02	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFV	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QFALPHA	
-0.893D-02	0.732D+00	0.108D+01	0.219D+01	
-0.172D-02	0.112D+01	-0.111D-01	-0.234D+00	
0.891D-01	-0.744D+00	-0.116D-01	0.121D+02	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRFBETA	
QRW	QRR	QRDELR	QRFALPHA	
-0.153D-02	-0.162D+00	-0.125D+01	0.234D+01	
0.154D-02	0.438D+01	0.129D-01	0.209D+00	
0.672D-01	0.106D+01	-0.231D-01	0.910D+01	

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PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
1.023000D+02	2.186000D+03	1.750000D+04	2.378000D-03	2.771246D+03
4.400000D+01	-1.227158D+01	-1.442553D+01	-1.267894D-03	8.409261D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	1.589510D-01	3.166513D+03
7.050000D+02	0.0	-7.715412D-01	1.217318D+01	1.030861D+04
THEOF	AICF	BITF	B1CF	DFW
THEOR	AICR	BITR	B1CR	LFW
1.843405D+01	5.401860D-01	1.600000D+00	1.600000D+00	1.867875D+03
1.911659D+01	1.384548D-02	1.600000D+00	1.600000D+00	-1.718904D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.877532D+01	-2.865835D+00	1.660328D-01	8.938598D-02	9.128154D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.837298D+03	5.455695D+02	1.751557D+02	1.978179D+03	9.784435D+02
1.075799D+04	7.483139D+02	1.172767D+02	2.374503D+03	8.518636D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
2.425973D+04	-2.076638D+03	1.865884D+02	6.135334D+02	1.219473D+03
2.871271D+04	1.459850D+03	-1.852619D+04	-4.823128D+02	1.443313D+03
XR	L'DE	SHPTOT	WFF	NMLB
5.615415D+03	5.504415D+00	2.762786D+03	2.763786D+03	3.618216D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	ANTR	LAMDAR
5.841923D-02	6.246738D-02	6.746810D-03	7.794184D-01	-9.915933D-02
5.841923D-02	7.679851D-02	7.982848D-03	7.820887D-01	-9.898342D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOF
2.2759447D-01	5.820573D+00	9.886198D-01	1.046168D+00	3.589791D+00
2.313431D-01	6.998071D+00	2.608044D-04		4.372533D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.213491D+00	1.589007D+00	8.406446D-02	6.536330D+00	8.439265D+00
3.858351D+00	1.383091D+00	1.924834D-01	7.916712D+00	9.938309D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.727792D+02	-2.177214D+01	2.657290D-03	3.414419D+02	3.584895D+00
1.747643D+02	-2.105449D+01	2.614234D-03	3.445868D+02	4.098757D+00

CASE 13

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90 RA		
4.850076D+01	5.961859D+02	1.362897D+00		
4.816484D+01	7.308431D+02	1.551109D+00		

NON UNIFORM DOMINASH POWER CORRECTIONS

	DELHPP	RHPF	SHT TOT	MMLB
	DELHPR	RHPR	WFF	RP
2.734975D+01	1.246823D+03	2.823663D+03	3.621671D-02	
3.352708D+01	1.476840D+03	2.824663D+03	6.337925D+02	

STABILITY NOT CALCULATED FOR THIS CASE. SKIPPING TO NEXT CASE

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PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.210000D+02	1.517000D+03	1.750000D+04	2.378000D-03	2.211434D+03
4.400000D+01	-8.364498D+00	-9.843372D+00	-1.248660D+00	8.539231D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	0.0	1.011634D-01	2.602930D+03
7.050000D+02	0.0	-9.887544D-01	7.106758D+00	1.015545D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
1.842828D+01	1.761222D-01	2.800000D+00	2.800000D+00	2.369776D+03
1.920288D+01	-1.323203D-01	4.000000D+00	4.000000D+00	-1.398903D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.881558D+01	-3.282161D+00	1.011910D-01	-1.034782D-03	9.159365D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.805906D+03	5.147436D+02	1.280769D+02	1.803227D+03	9.259778D+02
1.047348D+04	4.631835D+02	1.020121D+02	1.453176D+03	9.222381D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
2.371396D+04	-1.728754D+03	2.770249D+02	8.369156D+02	1.192038D+03
2.800636D+04	2.141069D+03	-1.851111D+04	4.957509D+02	1.407806D+03
XR	L/DE	SHPTOT	WFF	NMLB
4.539846D+03	6.419044D+00	2.699845D+03	2.700845D+03	4.445661D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	ANTR	LAMDAR
5.841923D-02	6.295961D-02	6.593070D-03	8.088332D-01	-9.591687D-02
5.841923D-02	7.422828D-02	7.786466D-03	8.098734D-01	-9.321123D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.758984D-01	4.929949D+00	1.167150D+00	9.966169D-01	3.560430D+00
2.795146D-01	5.812477D+00	3.186393D-07		4.199092D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
2.927911D+00	1.505944D+00	1.873669D-01	6.107023D+00	9.332629D+00
2.369411D+00	1.495728D+00	1.325730D+00	6.126517D+00	1.074985D+01
CAPVF	ALPHAF	BETAFW	AT1IPF	BFTPF
CAPVR	ALPHAR	BETARW	AT1IPR	BTPTR
2.043617D+02	-1.786449D+01	4.505766D-02	3.450634D+02	3.292496D+00
2.059611D+02	-1.690816D+01	4.447473D-02	3.470049D+02	2.802019D+00

PAGE 4

CASE 14	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTRIP	A90RA		
4.546338D-01	6.054003D-02	8.814692D-01		
4.518807D-01	7.199842D-02	1.039908D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WF	RP
4.369848D+01	1.235737D+03	2.795513D+03	4.326818D-02	
5.196927D+01	1.459776D+03	2.796513D+03	7.571931D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	50 kt	0 ft/min	-45 deg	
			-30	X
			-15	
			0	
			15	
			30	X
			45	
95			-30	
			-20	X
			-10	
			0	
			10	
			20	X
			30	
140			-10	X
			- 7	
			- 4	
			0	
			4	
			7	
			10	X

V FE	RC ALPHA 0. 0	GW ALFF 1.750000D+04 -1.655936D+01	RHO THETA 2.378000D-03 3.678033D+00	XF LW LF LW
5.000000D+01 4.400000D+01	-5.962188D+00	-1.655936D+01	2.378000D-03 3.678033D+00	1.453912D+03 8.595044D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -4.500000D+01 -9.653532D+00	PSI GAMMA 4.503581D+01 0.0	XR LW LR LW 2.147327D+03 1.080322D+04
THEOF THEOR 1.388047D+01 1.545990D+01	A1CF A1CR -1.124801D+00 1.209776D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFF LFFW 6.899255D+02 -2.424695D+03
THETAC 1.467019D+01	DELTAB -1.501897D+00	DELTIAS -7.550495D-01	DELTAR 7.737880D-02	DELTAC 5.945881D+00
TF TR 8.697456D+03 1.098147D+04	HF HR 5.855874D+02 8.532797D+02	YF YR 5.182863D+01 -7.034113D+01	MHF MHR 2.119187D+03 2.861439D+03	LHF LHR 3.108924D+02 1.506580D+01
QF QR 1.231461D+04 1.710183D+04	LFZ DFX -2.462468D+03 2.354172D+02	YFY MF 2.805381D+03 -1.448135D+04	LF NF -1.252467D+03 4.736971D+03	RHFF RHPR 6.190230D+02 8.596641D+02
XR 3.386063D+03	L/DE 2.537753D+00	SHPIOT 1.578687D+03	WFF 1.579687D+03	NMLB 3.165184D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSFR 6.195925D-02 7.825988D-02	CPSF CPSR 3.423767D-03 4.754734D-03	AMTF AMTR 7.043023D-01 7.083548D-01	LAMDAF LAMDAR -4.418855D-02 -5.286445D-02
MUF NUR 1.176235D-01 1.182584D-01	VF VR 1.131490D+01 1.385445D+01	DFFR DFRF 8.821128D-01 2.789989D-01	DFF 9.128231D-01	AOF AOR 3.290119D+00 4.309861D+00
ALF AIR 2.758439D+00 3.237654D+00	B1F B1R -2.121175D+00 3.339293D+00	BETA0F BETA0R 4.439582D-01 9.938731D-01	B180F B180R 5.988066D+00 7.475201D+00	A270F A270R 4.613934D+00 6.329322D+00
CAPVF CAPVR 8.526411D+01 8.659685D+01	ALPHAF ALPHAR -1.345293D+01 -1.568506D+01	BETAFW BETARW 3.140994D+02 3.144160D+02	ATIPF ATIPR 3.472963D+02 3.502755D+02	BPTPF BPTPR 3.479709D+00 4.651159D+00

CASE 15

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.563160D-01	6.093573D-02	A90F	A90RA	
5.504322D-01	7.659092D-02	1.705491D+00	2.344742D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.330294D+00	6.223533D+02	1.586203D+03	3.150195D-02	
4.185890D+00	8.638500D+02	1.587203D+03	5.512841D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA 0.0	GW ALFFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
5.000000D+01 4.400000D+01	-3.798771D-01	-8.695946D+00	2.744371D+00	7.930693D+02 7.716515D+03
VTF VTR	CGF CGL -2.190042D+01 0.0	BETAF PHI -3.000000D+01 -5.382281D+00	PSI GAMMA 2.988980D+01 0.0	XR LW LR LW 1.835596D+03 1.025557D+04
THEOF THEOR	AICF AICR -8.972280D-01 1.463107D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.280445D+02 -7.252703D+02
1.262352D+01 1.492069D+01	1.463107D+00			
THETAC 1.377211D+01	DELTAB -2.454751D+00	DELTAS -7.773160D-01	DELTAR 1.70600D-01	DELTAC 5.249697D+00
TF TR	HF HR 5.358855D+02 8.509223D+02	YF YR 9.449381D-01 8.880699D+01	MHF MHR 2.933308D+03	LHF LHR 1.280848D+02 5.717069D+02
QF QR 1.524242D+04	LFZ DFX -7.274293D+02 3.232287D+02	YFY MF 1.730691D+03 -5.468528D+03	LF NF 9.802086D+02 4.825141D+03	RHPF RHPR 4.652529D+02 7.661964D+02
XR 1.289770D+03	L/DE 2.370661D+00	SHPTOT 1.331449D+03	WF 1.332449D+03	NMLB 3.752488D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS 5.464371D-02 7.412011D-02	CPSF CPS 2.573277D-03 4.237772D-03	AMTF AMTR 7.091704D-01	LAMDAF LAMDAR -3.505314D-02 -5.016808D-02
MUF MUR 1.184531D-01 1.190396D-01	VF VR 1.024311D+01 1.314146D+01	DFFR DRFR 1.252587D+00 1.461142D-01	DF 9.151844D-01	AOF AOR 2.774625D+00 4.024272D+00
AIF AIR 3.226050D+00 3.653719D+00	BIF BIR -1.649511D+00 3.201191D+00	BETAOF BETAOR -4.927853D-01 3.290264D-01	B180F B180R 5.954070D+00 7.615154D+00	A270F A270R 3.737536D+00 5.890096D+00
CAPVF CAPVR 8.475359D+01 8.681571D+01	ALPHAF ALPHAR -9.829304D+00 -1.483243D+01	BETAFW BETARW 3.296285D+02 3.297937D+02	ATIPF ATIPR 3.533462D+02 3.562738D+02	BPTPF BPTPR 3.623297D+00 4.857704D+00

CASE 13

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.559531D-01			A90F	
5.506142D-01			A90RA	
			1.224095D+00	
			2.105724D+00	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPP	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.989893D+00	4.682428D+02	1.338413D+03	3.732979D-02	
3.973692D+00	7.701701D+02	1.339413D+03	6.5332713D+02	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.740494D-02	4.999556D-01	1.357933D-01	4.047597D-01
-2.079637D-03	9.805653D-01	5.823143D-02	-1.523213D-01
4.591810D-02	-6.915505D-02	5.840624D-03	3.363232D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-9.521938D-02	-3.8555017D+00	6.687823D-01	-7.582510D+00
-1.193388D-02	-2.711458D-01	-7.599440D-01	-8.740867D-01
-7.670728D-01	-8.429496D-01	2.684561D-01	-5.618360D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.767749D-04	-1.493899D-01	4.360677D-01	2.034498D-01
8.215267D-03	-1.349873D+00	2.707450D-02	6.017204D-01
1.662872D-02	-2.314788D-01	1.407539D-01	1.217957D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.320464D-02	-1.446197D+00	2.304812D-02	8.330834D-02
-1.207162D-01	2.310667D-01	8.932775D-01	-8.841754D+00
-5.106156D-03	-1.260758D-01	-2.176097D-01	-3.739961D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
2.110906D-03	-7.428947D-01	-2.040747D-02	4.557659D-02
-2.754181D-03	-1.645504D-01	3.719080D-01	-2.017277D-01
-1.687955D-03	-2.706551D-02	-1.786835D-01	-1.236328D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
9.883414D-04	-1.071900D-02	3.427602D-02	-1.656968D-02
-1.986892D-03	-1.453556D-01	1.030011D-02	-1.455283D-01
1.768536D-03	-3.8555242D-02	1.235490D-01	1.295350D-01

LONGITUDINAL		U	MU	W	ALPHA	Q	THETAC
CTF	0.425D-05	0.300D-02	0.906D-04	0.663D-02	0.168D-02	0.449D-01	
CTR	0.106D-04	0.748D-02	0.730D-04	0.535D-02	0.177D-02	0.321D-01	
CHF	0.145D-05	0.102D-02	0.675D-05	0.494D-03	0.263D-03	0.373D-02	
CHR	0.296D-05	0.209D-02	0.668D-05	0.489D-03	0.221D-04	0.366D-02	
AIF	0.500D-03	0.352D+00	0.395D-03	0.289D-01	0.859D-01	0.330D+00	
AIR	0.683D-03	0.481D+00	0.329D-03	0.241D-01	0.394D-01	0.294D+00	
VFR	-0.836D-01	0.590D+02	0.295D+00	0.216D+02	0.582D+01	0.138D+03	
VRR	-0.819D-01	0.577D+02	0.241D+00	0.176D+02	0.620D+01	0.845D+02	
LF			0.219D+02	0.160D+04			
DF			0.536D+00	0.392D+02			
NF			0.121D+03	0.889D+04			

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.115D-05	0.841D-04	0.137D-03	0.357D-04	0.330D-02	
CYR	0.201D-05	0.147D-03	0.191D-03	0.686D-05	0.445D-02	
BIF	0.270D-03	0.198D-01	0.778D-01	0.140D-01	0.882D+00	
BIR	-0.377D-03	0.276D-01	0.474D-01	0.870D-03	0.890D+00	
YF	-0.580D+02	0.425D+04				
LF	0.449D+02	0.329D+04				
NF	-0.205D+03	0.150D+05				
CTF			0.389D-02			
CTR			-0.532D-02			

FORCE = 0.241446D+07

X	Z	E	Y	L	N	BICF	BICR	OMEGA F	OMEGAR	
						0.119D+02	0.188D+02	0.0	0.0	
						0.224D+02	0.312D+02	0.0	0.0	
						-0.639D+01	0.109D+01	0.0	0.0	
						-0.233D-02	-0.267D+00	0.0	0.0	
						-0.927D-01	-0.103D+00	0.0	0.0	
						0.646D-01	0.150D-01	0.0	0.0	
						CTF	-0.674D-02	0.249D-03	0.0	0.0
						CTR	0.214D-02	-0.681D-02	0.0	0.0
						CHF	-0.378D-02	0.181D-04	0.0	0.0
						CHR	0.189D-03	-0.508D-02	0.0	0.0
						AIF	-0.902D+00	0.957D-03	0.0	0.0
						AIR	-0.739D-02	-0.922D+00	0.0	0.0
						VFR	-0.209D+02	0.836D+00	0.0	0.0
						VRR	0.748D+01	-0.198D+02	0.0	0.0
						QF	0.104D+01	-0.397D-01	0.0	0.0
						QR	-0.136D+00	0.646D+00	0.0	0.0
						QFU	QFP	QFDLB	QFDLTAC	
						QFY	QFQ	QFDLS	QFBETA	
						QFW	QFR	QFDLR	QRALPHA	
						-0.233D-02	0.817D-01	0.373D+00	0.768D+00	
						0.607D-03	0.252D+01	-0.217D-01	0.445D-01	
						-0.136D-01	-0.201D+00	-0.323D-01	-0.999D+00	
						QRU	QRP	QRDELB	QRDELTAC	
						QRV	QRQ	QRDELS	QRBETA	
						QRW	QRR	QRDELR	QRALPHA	
						-0.439D-02	0.736D-01	-0.387D+00	0.123D+01	
						0.332D-02	0.255D+01	0.914D-03	0.243D+00	
						-0.304D-02	0.383D+00	0.529D-02	-0.223D+00	

CASE 16

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
5.00000D+01	0.0	1.75000D+04	2.378000D-03	5.015908D+02
4.40000D+01	1.580614D+00	-5.952861D+00	2.311344D+00	7.390013D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	-2.190042D+01	-1.50000D+01	1.490391D+01	1.835499D+03
7.05000D+02	0.0	-2.695411D+00	0.0	1.002789D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFW
1.199481D+01	6.679005D-01	-2.50000D+00	-2.50000D+00	3.715605D+02
1.475526D+01	1.739423D+00	-2.50000D+00	-2.50000D+00	-1.047492D+02
THETAC	DELTAB	DELTA'S	DELTAR	DELTAC
1.337503D+01	-3.051992D+00	-3.621982D-01	5.135415D-01	4.941886D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.388008D+03	5.303046D+02	1.440847D+02	2.329856D+03	8.287792D+02
1.015850D+04	8.558879D+02	2.391784D+02	2.950423D+03	1.095901D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
7.867949D+03	-9.446063D+01	9.222899D+02	1.347666D+03	3.955012D+02
1.472925D+04	3.743085D+02	-2.475781D+03	8.064784D+02	7.404009D+02
XR	L/DE	SHPTOT	WFF	NMLB
6.000294D+02	2.349197D+00	1.235902D+03	1.236902D+03	4.042357D-02
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LAMDAR
5.841923D-02	5.234142D-02	2.187486D-03	7.077198D-01	-3.063200D-02
5.841923D-02	7.201757D-02	4.095099D-03	7.098984D-01	-5.056930D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.187174D-01	9.849443D+00	1.535719D+00	9.488873D-01	2.619838D+00
1.192835D-01	1.281864D+01	3.952783D-02		3.909061D+00
AI F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
4.005684D+00	3.108730D-01	-1.421987D+00	6.581409D+00	3.426959D+00
4.168996D+00	2.9646606D+00	-3.302293D-01	8.012570D+00	5.721548D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
8.451593D+01	-7.988545D+00	3.448677D+02	-3.913702D+00	4.017729D+00
8.713870D+01	-1.518855D+01	3.449412D+02	-1.250390D+00	5.115606D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A96F		
RMTR	CTR P	A90RA		
5.554630D-01	5.239249D-02	1.031977D+00		
5.510344D-01	7.109410D-02	2.022892D+00		

3

NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHPF	RHPF	SHP TOT	NMLB
	DELHPR	RHP R	WFF	RP
2.863384D+00	3.983645D+02	1.242651D+03	4.020421D-02	
3.885475D+00	7.442864D+02	1.243651D+03	7.035736D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE 5.00000D+01 4.40000D+01	RC ALPHA 0.0 2.025051D+00	GW ALFF 1.75000D+04 -5.630086D+00	RHO THETA 2.37800D+03 2.094587D+00	XF LW LF LW 4.222679D+02 7.392091D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -1.475711D-01	PSI GAMMA -5.169504D-03 0.0	XR LW LR LW 1.8633289D+03 1.008261D+04
THEOF THEOR 1.193644D+01 1.479532D+01	AICF AICR 1.607063D+00 1.138003D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 3.708094D+02 -1.439740D+02
THETAC 1.336588D+01	DELTAB -3.222907D+00	DELTIAS 1.574054D-01	DELTAR 5.460056D-01	DELTAC 4.934791D+00
TF TR 7.384206D+03 1.021392D+04	HF HR 5.429776D+02 8.981688D+02	YF YR 2.136079D+02 2.126302D+02	MHF MHR 2.428287D+03 2.885791D+03	LHF LHR 1.206006D+03 9.046591D+03
QF QR 7.712029D+03 1.503328D+04	LFZ DFX -1.307810D+02 3.756553D+02	YFY MF 4.445694D+01 -2.067822D+03	LF NF 1.252740D+02 1.903100D+02	RHPP RHPR 3.876635D+02 7.556836D+02
XR 4.132353D+02	L/DE 2.277271D+00	SHP10I 1.243347D+03	WFF 1.244347D+03	NMLB 4.018172D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 5.256959D-02 7.278821D-02	CPSF CPSR 2.144136D-03 4.179626D-03	AMTF AMTR 7.081048D-01 7.097344D-01	LAMDAF LAMDAR -2.953461D-02 -5.132420D-02
MUF MUR 1.187650D-01 1.193317D-01	VF VR 9.870747D+00 1.285659D+01	DFFR DFRF 1.621045D+00 2.714511D-41	DFF 9.947254D-01	AOF AOR 2.629862D+00 4.130093D+00
A1F AIR 3.945818D+00 4.6906767D+00	B1F B1R 1.958518D+00 1.469015D+00	BETAOF BETAOR -1.347370D+00 -8.481179D-01	B180F B180R 6.532719D+00 8.715992D+00	A270F A270R 3.466428D+00 5.795106D+00
CAPVF CAPVR 8.444700D+01 8.730225D+01	ALPHAF ALPHAR -7.474949D+00 -1.549569D+01	BETAFW BETARW 3.600000D+12 3.600000P.J2	ATIPF ATIPR -3.529131D+00 -2.841822D-01	BPTPF BPTPR 4.405142D+00 4.915414D+00

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	6.0	0.0	0.0	
5.5424557D-01		CTFP	A90F	
5.526140D-01		CTR _P	A90RA	
		5.240723D-02	1.001097D+00	
		7.148199D-02	2.289370D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	HFP	RP
2.864189D+00	3.905277D+02	1.250118D+03	3.996426D-02
3.906674D+00	7.595903D+02	1.251118D+03	6.993745D+02
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE			

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
5.000000D+01	0.0	1.750000D+04	2.378000D-03	4.599449D+02
4.400000D+01	1.813556D+00	-5.725703D+00	2.417250D+00	7.410682D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	1.500000D+01	-1.491149D+01	1.843932D+03
7.050000CD+02	0.0	2.204611D+00	0.0	1.003892D+04
THE0F	A1CF	B1FF	B1CF	DFW
THE0R	A1CR	B1TR	B1CR	LFFW
1.212011D+01	2.408537D+00	-2.500000D+00	-2.500000D+00	3.536867D+02
1.465427D+01	9.705261D-02	-2.500000D+00	-2.500000D+00	-1.314078D+02
THETAC	DELTAB	DELJAS	DELTAR	DELTAC
1.338719D+01	-2.874929D+00	7.695712D-01	4.734818D-01	4.951307D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.404876D+03	5.454932D+02	2.698082D+02	2.5006693D+03	1.518170D+03
1.017304D+04	8.301743D+02	1.418218D+02	2.715691D+03	7.155745D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
8.032529D+03	-1.201488D+02	-7.988130D+02	-1.225266D+03	4.037742D+02
1.449530D+04	3.576682D+02	-2.427045D+03	-8.609249D+02	7.286409D+02
XR	L/DE	SHP10T	WFF	NMLB
5.426598D+02	2.3383318D+00	1.232415D+03	1.233415D+03	4.053785D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTSFR	CPSRF	AMTR	LANDAR
5.841923D-02	5.283752D-02	2.233243D-03	7.075733D-01	-3.021158D-02
5.841923D-02	7.227751D-02	4.030055D-03	7.089968D-01	-5.035299D-02
MUF	VF	DFFR	DFF	AUF
MUR	VR	DFRF		AUR
1.187790D-01	9.880386D+00	1.5446757D+00	9.468605D-01	2.638218D+00
1.193254D-01	1.283974D+01	3.954883D-02		3.902925D+00
AIF	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
3.279668D+00	3.440505D+00	-6.401676D-01	5.879193D+00	3.588275D+00
4.564024D+00	-2.413389D-02	-7.014385D-01	8.403501D+00	5.583224D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPIPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
8.451411D+01	-7.764698D+00	1.512256D+01	-4.406776D+00	4.753240D+00
8.712196D+01	-1.507328D+01	1.505167D+01	-6.224200D-01	4.564088D+00

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CASE 18

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTRPF	A90RA	
5.524506D-01	5.253903D-02	9.962940D-01	
5.542078D-01	7.117228D-02	2.050191D+00	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

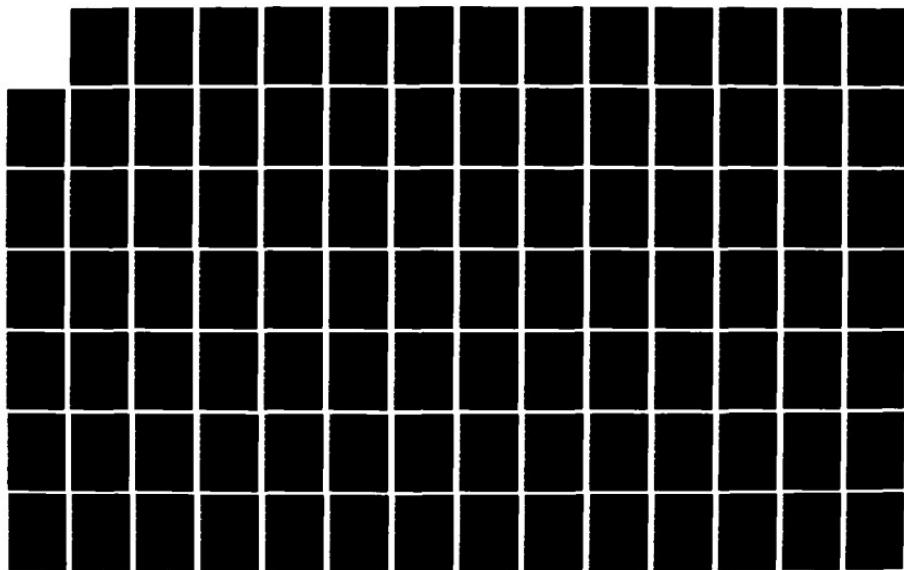
DELHPP	RHPF	SHPF	SHP TOT	NNLB
DELHPR	RHPF	RHPF	WF	RP
2.871393D+00	4.066456D+02	1.239176D+03	4.031685D-02	
3.889747D+00	7.325306D+02	1.240176D+03	7.055649D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

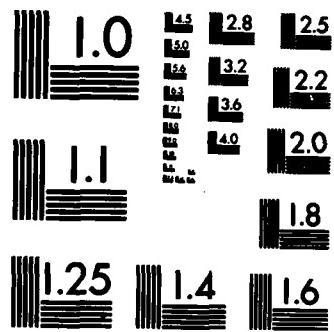
V FE 5.000000D+01 4.400000D+01	RC ALPHA 0.0 2.15198D-02	GW ALFF 1.750000D+04 -8.201293D+00	RHO THETA 2.378000D-03 2.994330D+00	XF LW LF LW 7.054984D+02 7.680083D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 3.000000D+01 5.103386D+00	PSI GAMMA -2.986624D+01 0.0	XR LW LR LW 1.818872D+03 1.014271D+04
THE0F THEOR 1.4677937D+01	A1CF A1CR 3.178536D+00 -1.277157D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 2.534095D+02 -5.670421D+02
THETAC 1.372834D+01	DELTAB -2.145583D+00	DELTIAS 1.100618D+00	DELTAR 5.517449D-01	DELIJAC 5.215768D+00
TF TR 7.691433D+03 1.027406D+04	HF HR 5.685710D+02 7.915443D+02	YF YR 3.239357D+02 1.955547D+02	MHF MHR 2.567863D+03 2.503633D+03	LHF LHR 1.702776D+03 8.207993D+03
QF QR 9.543025D+03 1.456849D+04	LFZ DFX -5.6694668D+02 2.536224D+02	YFY MF -1.678271D+03 -5.922941D+03	LF NF -8.161879D+02 -4.077380D+03	RHRF RHPR 4.797029D+02 7.323200D+02
XR 1.168377D+03	L/DE 2.372310D+00	SHPTOT 1.312023D+03	WFF 1.313023D+03	HMLB 3.808007D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 5.489962D-02 7.287841D-02	CPSF CPSR 2.653199D-03 4.050404D-03	AMTF AMTR 7.065864D-01 7.075609D-01	LAMDAF LANDAR -3.425407D-02 -4.943957D-02
MUF MUR 1.185586D-01 1.191181D-01	VF VR 1.019685D+01 1.302101D+01	DFFR DFRF 1.269584D+00 1.465429D-01	DFF DFF 9.103175D-01	A0F A0R 2.831704D+00 3.947743D+00
A1F AIR 2.204229D+00 4.186932D+00	B1F B1R 4.694999D+00 -8.934858D-01	BETA0F BETA0R 5.711920D-01 -3.098556D-01	B180F B180R 4.982257D+00 8.065640D+00	A270F A270R 3.998110D+00 5.598697D+00
CAPVF CAPVR 8.474018D+01 8.676950D+01	ALPHAF ALPHAR -9.476270D+00 -1.457221D+01	BETAFW BETARW 3.034221D+01 3.018482D+01	ATIPF ATIPR -7.274251D+00 -2.791548D+00	BPTPF BPTPR 5.006360D+00 4.281205D+00

HD-A134 323 HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E 4/6
VOLUME 4(U) BOEING VERTOL CO PHILADELPHIA PA 03 OCT 83
NADC-81118-60-VOL-4

UNCLASSIFIED

F/G 1/2 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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	ZFF	MFF	TP
XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CIRP	A90RA	
5.507326D-01	5.444899D-02	1.194448D+00	
5.547800D-01	7.190813D-02	2.095919D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPP	SHPTOT	NMLB
DELHPP	RHPP	WFF	RP
2.975777D+00	6.826786D+02	1.318929D+03	3.788084D-02
3.929963D+00	7.362500D+02	1.319929D+03	6.629146D+02

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.892210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.266616D-02	4.186034D-01	9.109801D-02	4.201121D-01
-2.246563D-03	1.089490D+00	-5.451137D-02	-1.645505D-01
4.035319D-02	-5.817758D-02	-5.678774D-02	2.955687D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.053523D-01	-3.206519D+00	6.916350D-01	-7.573675D+00
1.981457D-02	-1.871326D-01	7.430390D-01	1.451327D+00
-7.549567D-01	-5.659043D-01	-2.2653319D-01	-5.529714D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-5.5145559D-04	-1.864902D-01	4.396381D-01	2.010622D-01
-1.067063D-02	-1.2224559D+00	-3.070237D-02	-7.815749D-01
1.734002D-02	-2.777527D-01	-1.382215D-01	1.270077D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-2.751007D-02	-1.498854D+00	1.805617D-01	-5.843050D-03
-1.088029D-01	-1.288955D-01	8.767950D-01	-7.969319D+00
1.944505D-02	-2.502451D-01	-2.573397D-01	1.424262D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LL'LS	LBETA
LW	LR	LDELR	LALPHA
-3.642625D-03	-8.302169D-01	2.747563D-02	-4.541192D-02
-9.464867D-04	7.897296D-02	3.677524D-01	-6.932584D-02
5.900652D-03	-6.725353D-02	-1.943067D-01	4.321959D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.510392D-04	5.535704D-02	3.207736D-02	1.966997D-02
-1.988850D-03	-1.588131D-01	8.923130D-03	-1.456742D-01
-6.078117D-04	-4.000283D-02	1.241681D-01	-4.451944D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.422D-05	0.298D-02	0.902D-04	0.661D-02	0.150D-02	0.447D-01
CIR	0.105D-04	0.743D-02	0.721D-04	0.528D-02	0.158D-02	0.320D-01
CHF	0.149D-05	0.105D-02	0.722D-05	0.529D-03	0.255D-03	0.405D-02
CHR	0.282D-05	0.199D-02	0.619D-05	0.653D-03	0.499D-04	0.330D-02
AIF	0.707D-03	0.499D+00	0.436D-03	0.320D-01	0.481D-01	0.332D+00
AIR	0.562D-03	0.396D+00	0.306D-03	0.224D-01	0.778D-01	0.293D+00
VFR	-0.841D-01	0.593D+02	0.294D+00	0.215D+02	0.525D+01	0.138D+03
YFR	-0.814D-01	0.574D+02	0.237D+00	0.174D+02	0.562D+01	0.845D+02
LF		0.184D+02	0.135D+04			
DF		0.317D+01	0.232D+03			
NF		0.181D+03	0.132D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.137D-05	0.101D-03	0.131D-03	0.579D-04	0.315D-02
CYR	0.245D-05	0.179D-03	0.204D-03	0.177D-05	0.450D-02
B1F	0.153D-03	0.112D-01	0.417D-01	0.114D-01	0.891D+00
B1R	-0.262D-03	0.192D-01	0.848D-01	0.612D-03	0.892D+00
YF	-0.500D+02	0.366D+04			
LF	0.905D+02	0.663D+04			
NF	-0.228D+03	0.167D+05			
CTF			-0.401D-02		
CIR			0.518D-02		

FORCE = 0.241446D+07

		BICF	BICR	OMEGAF	OMEGAR
X	Z	0.121D+02	0.182D+02	0.0	0.0
Z	Z	0.221D+02	0.318D+02	0.0	0.0
Y	Y	-0.438D+01	0.117D+01	0.0	0.0
L	L	-0.168D+01	0.641D+00	0.0	0.0
N	N	-0.239D+00	0.294D+00	0.0	0.0
		-0.705D-01	-0.776D-01	0.0	0.0
CTF		-0.667D-02	0.255D-03	0.0	0.0
CTR		-0.215D-02	-0.694D-02	0.0	0.0
CHF		-0.382D-02	0.291D-04	0.0	0.0
CHR		0.178D-03	-0.497D-02	0.0	0.0
AIF		-0.915D+03	0.996D-03	0.0	0.0
AIR		-0.734D-02	-0.908D+00	0.0	0.0
VFR		-0.286D+02	0.859D+00	0.0	0.0
VRR		0.754D+01	-0.202D+02	0.0	0.0
QF		0.969D+00	-0.341D-01	0.0	0.0
QR		-0.188D+00	0.604D+00	0.0	0.0
QFU		QFP	QFDELB	QFDELTAC	
QFV		QFQ	QFDELS	QFBETA	
QFW		QFR	QFDELR	QFALPHA	
-0.234D-02		0.979D+00	0.386D+00	0.792D+00	
-0.359D-03		0.252D+01	0.112D-01	-0.263D-01	
-0.119D-01		-0.539D-01	0.169D-01	-0.870D+00	
QRU		QRP	QRDELB	QRDELTAC	
QRV		QRQ	QRDELS	QRBETA	
QRW		QRR	QRDELR	QRALPHA	
-0.458D-02		-0.716D+00	-0.561D+00	0.119D+01	
-0.363D-02		0.254D+01	0.127D-01	-0.266D+00	
-0.458D-02		0.337D+00	-0.333D-01	-0.335D+00	

V FE 5.000000D+01 4.400000D+01	RC ALPHA 0.0 -5.360816D+00	GW ALFF 1.750000D+04 -1.574247D+01	RHO THETA 2.378000D-03 4.054633D+00	XF LW LF LW 1.334647D+03 8.518658D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 4.500000D+01 9.349023D+00	PSI GAMMA -4.98503D+01 0.0	XR LW LR LW 2.103086D+03 1.053884D+04
THEOF THEOR 1.391896D+01 1.513909D+01	A1CF A1CR 2.743653D+00 -6.631640D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.197048D+02 -2.071088D+03
THETAC 1.452902D+01	DELTAB -1.220751D+00	DELTA S 1.137194D+00	DELTA R 3.367750D-01	DELTAC 5.836453D+00
TF TR 8.600671D+03 1.072031D+04	HF HR 6.142257D+02 7.516386D+02	YF YR 2.175361D+02 1.960069D+02	NHF NHR 2.585915D+03 2.242544D+03	LHF LHR 1.082125D+03 7.182212D+02
9F QR 1.238371D+04 1.609491D+04	LFZ DFX -2.091898D+03 1.248101D+02	YFY MF -2.851557D+03 -1.581838D+04	LF NF 5.299259D+02 -3.216201D+03	RHFF RHPR 6.224965D+02 8.090489D+02
XR 3.172802D+03	L/DE 2.572738D+00	SHPTOT 1.531545D+03	WFF 1.532545D+03	NMLB 3.262546D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS R 6.076095D-02 7.545884D-02	CPSF CPS R 3.442979D-03 4.474785D-03	AMTF AMTR 7.062400D-01 7.052605D-01	LAMDAF LAMDAR -4.306167D-02 -5.163771D-02
MUF MUR 1.177880D-01 1.183967D-01	VF VR 1.120199D+01 1.357271D+01	DFRF DFRF 8.943072D-01 2.802879D-01	UFF UFF 9.045006D-01	AOF AOF 3.239242D+00 4.121776D+00
A1F AIR 1.666361D+00 3.384183D+00	B1F B1R 4.239278D+00 -1.784098D+00	BETAOF BETAOR 1.536230D+00 6.646310D-01	B180F B180R 4.848331D+00 7.435245D+00	A270F A270R 4.732619D+00 5.870885D+00
CAPVF CAPVR 8.522113D+01 8.653514D+01	ALPHAF ALPHAR -1.298924D+01 -1.529611D+01	BETAFW BETARW 4.584891D+01 4.554630D+01	ATIPF ATIPR 3.168055D+02 3.510234D+02	BPTPF BPTPR 4.555016D+00 3.825664D+00

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PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTF	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTF	CTR	A90RA		
5.510523D-01	6.039416D-02	1.608440D+00		
5.554362D-01	7.471650D-02	2.285410D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHTOT	MMLB
	DELHPR	RHPR	WFF	RP
3.300696D+00	6.257972D+02	1.538930D+03	3.246902D-02	
4.083448D+00	8.131323D+02	1.539930D+03	5.682078D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 9.50000D+01 4.40000D+01	RC ALPHA 0. -1.152165D+01	GW ALFF 1.750000D+04 -1.407859D+01	RHO THETA 2.378000D-03 1.701722D-01	XF LW LF LW 2.179489D+03 8.642337D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -3.000000D+01 -1.982546D+01	PSI GAMMA 3.147752D+01 0.0	XR LW LR LW 2.401328D+03 1.057573D+04
THEOF THEOR 1.728115D+01 1.750080D+01	AICF AICR -5.169999D+00 1.667385D+00	B1TF B1TR -6.000000D-01 -6.000000D-01	B1CF B1CR -6.000000D-01 -6.000000D-01	DFW LFW 1.730262D+03 -2.968666D+03
THETAC 1.739098D+01	-2.174994D+00	DELTAB -2.284605D+00	DELTIAS -6.158282D-01	DELTAC 8.055020D+00
TF TR 8.886829D+03 1.0880031D+04	HF HR 6.814972D+02 9.827510D+02	YF YR -4.065016D+02 -7.899493D+01	MHF MHR 2.257953D+03 3.297341D+03	LHF LHR -1.514627D+03 1.788088D+02
QF QR 2.108059D+04 2.294095D+04	LFZ DFX -3.254445D+03 1.102440D+03	YFY MF 6.262451D+03 -2.300107D+04	LF NF 3.638036D+03 1.120565D+04	RHFF RHPR 1.059666D+03 1.153182D+03
XR 5.050759D+03	L'DE 6.081897D+00	SHPTOT 2.312848D+03	WFF 2.313848D+03	NMLB 4.105715D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 6.278576D-02 7.700012D-02	CPSF CPSF 5.860930D-03 6.378156D-03	AMIF AMIR 7.642511D-01 7.744184D-01	LAMDAF LAMNDAR -8.142412D-02 -8.174989D-02
MUF MUR 2.162104D-01 2.187158D-01	VF VR 6.285635D+00 7.556748D+00	DFFR DFFR 9.091607D-01 1.354747D-01	DFF DFF 9.280299D-01	AOF AOF 3.582996D+00 4.345546D+00
A1F AIR 1.862425D+00 4.455608D+00	B1F B1R -4.005227D+00 2.996370D+00	BETAOF BETAOR 1.494543D+00 -4.355372D-01	B180F B180R 5.229484D+00 8.527563D+00	A270F A270R 7.551972D+00 9.105256D+00
CAPVF CAPVR 1.607715D+02 1.621224D+02	ALPHAF ALPHAR -1.853936D+01 -1.7999188D+01	BETAFW BETARN 3.287820D+02 3.291789D+02	ATIPF ATIPR 3.408408D+02 3.459340D+02	BTPPF BTPPR 4.417066D+00 5.369421D+00

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PAGE 4

	XFF	ZFF	NFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	
4.951689D+01		CTFP	A90F	
6.872295D+01		CTR	A90RA	
	6.127102D+02	1.127102D+02	1.452495D+00	
	7.497806D+02	1.497806D+02	1.474255D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPP	SHPTOT	MMLB
	DELHPR	RHPR	WFF	RP
2.307487D+01	1.082741D+03	2.364160D+03	4.016642D+02	
2.823699D+01	1.181619D+03	2.365160D+03	7.029124D+02	
				STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 9.50000D+01 4.40000D+01	RC ALPHA 0.0 -4.254054D+00	GW ALFF 1.750000D+04 -6.350808D+00	RHO THETA 2.378000D-03 3.158320D-01	XF LW LF LW
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -2.000000D+01 -1.253085D+01	PSI GAMMA 2.037670D+01 0.0	XR LW LR LW
THEOF THEOR 1.508355D+01 1.570260D+01	AICF AICR -4.064979D+00 1.528835D+00	B1TF B1TR 3.000000D-01 3.000000D-01	B1CF B1CR 3.000000D-01 3.000000D-01	DFW LFW 1.318720D+03 -4.640188D+02
THETAC 1.539308D+01	DELIAB -2.628363D+00	DELTIAS -1.891410D+00	DELIAR -4.127765D-01	DELTAC 6.506261D+00
TF TR 7.813840D+03 9.8533176D+03	HF HR 4.535900D+02 6.837199D+02	YF YR -3.388243D+02 7.187542D+01	MHF MHR 1.602042D+03 2.422731D+03	LHF LHR -1.349174D+03 7.774599D+02
QF QR 1.457214D+04 1.661747D+04	LFZ DFX -5.605618D+02 1.280666D+03	YFY MF 4.213057D+03 -1.148335D+04	LF NF 4.8346769D+03 8.023764D+03	RHPF RHPF 7.325035D+02 8.3533168D+02
XR 2.669563D+03	L/DE 5.742384D+00	SHP10T 1.667820D+03	WFF 1.668820D+03	NMLB 5.692644D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CISF CTSR 5.556534D-02 6.993037D-02	CPSF CPSP 4.051419D-03 4.620071D-03	AMTF AMTR 7.687864D-01 7.748675D-01	LAMDAF LAMDAR -5.942812D-02 -6.147893D-02
MUF MUR 2.218312D-01 2.237253D-01	VF VR 5.573639D+00 6.939828D+00	DFFR DFRF 1.250248D+00 6.733052D-02	DFF DFF 8.873952D-01	AOF AOF 2.975353D+00 3.789881D+00
AIF AIR 1.670452D+00 3.253890D+00	B1F B1R -2.963331D+00 2.550319D+00	BETAOF BETAOR 1.062213D+00 2.265860D-01	B180F B180R 6.425350D+00 6.761424D+00	A270F A270R 6.086490D+00 7.681602D+00
CAPVF CAPVR 1.605538D+02 1.618727D+02	ALPHAF ALPHAR -1.307560D+01 -1.299611D+01	BETAFW BETARW 3.396913D+02 3.396913D+02	ATIPF ATIPR 3.479164D+02 3.519998D+02	BPTPF BPTPR 3.401726D+00 4.134239D+00

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PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A98F		
RHTR	CIRP	A90RA		
4.910996D+01	5.468849D+02	8.498895D+01		
4.854205D+01	6.915619D+02	1.016932D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	MFF	RP
2.059586D+01	7.530993D+02	1.714461D+03	5.537871D-02
2.604445D+01	8.613613D+02	1.715461D+03	9.691275D+02

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STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-5.006396D-02	6.379415D-01	1.803306D-01	5.509603D-01
-6.548878D-03	3.348885D-01	1.013892D-01	6.844336D-01
5.397107D-02	-7.188935D-02	3.519012D-02	8.120600D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
5.892432D-03	-1.605416D+00	5.842479D-01	-9.701522D+00
-5.823679D-02	-2.519882D-01	-1.184916D+00	-8.762429D+00
-9.092442D-01	-1.051183D+00	3.343301D-01	-1.368068D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.834677D-03	1.832257D-01	4.87090D-01	2.326265D-01
-5.086151D-03	-1.487106D+00	3.271088D-02	7.652728D-01
2.064021D-02	-2.334885D-01	1.933614D-01	3.105568D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
4.923142D-02	-9.235161D-01	-8.920011D-02	-8.234124D-02
-1.499456D-01	4.595693D-01	8.541350D-01	-2.256112D+01
-6.298713D-02	-3.3466467D-02	-1.965137D-01	-9.477174D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.833510D-03	-5.444120D-01	-4.360532D-02	-7.423101D-04
-3.680364D-03	2.111065D-01	3.595207D-01	-5.537522D-01
-1.230868D-02	3.706870D-03	-1.664880D-01	-1.851990D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-2.242733D-04	-4.320644D-02	3.308055D-02	-2.248527D-02
-5.336871D-03	-1.485753D-01	1.141842D-02	-8.029966D-01
2.098543D-03	-4.584337D-02	1.213033D-01	3.157511D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.882D-05	-0.622D-02	0.105D-03	0.158D-01	0.191D-02	0.554D-01
CTR	0.267D-05	0.188D-02	0.855D-04	0.129D-01	0.198D-02	0.427D-01
CHF	0.888D-06	0.626D-03	0.639D-05	0.961D-03	0.177D-03	0.424D-02
CHR	0.212D-05	0.150D-02	0.739D-05	0.111D-02	0.256D-04	0.487D-02
A1F	0.435D-03	0.307D+00	0.786D-03	0.118D+00	0.942D-01	0.684D+00
AIR	0.472D-03	0.333D+00	0.636D-03	0.957D-01	0.436D-01	0.609D+00
VFR	-0.467D-01	0.329D+02	0.183D+00	0.275D+02	0.342D+01	0.945D+02
VRR	-0.340D-01	0.240D+02	0.168D+00	0.222D+02	0.367D+01	0.706D+02
LF			0.343D+02	0.517D+04		
DF			0.482D+01	0.726D+03		
MF			0.319D+03	0.480D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.163D-05	-0.245D-03	-0.744D-04	-0.155D-04	0.317D-02
CYR	0.199D-05	0.299D-03	0.137D-03	0.618D-05	0.419D-02
B1F	-0.206D-03	0.310D-01	-0.746D-01	-0.160D-01	0.985D+00
B1R	0.224D-04	0.337D-02	0.546D-01	0.480D-04	0.944D+00
YF	-0.728D+02	-0.110D+05			
LF	0.401D+02	0.603D+04			
NF	-0.539D+03	-0.810D+05			
CTF			0.547D-02		
CTR			-0.723D-02		

FORCE = 0.241446D+07

		BICF	BICR	OMEGAF	OMEGAR
X	Z	0.778D+01	0.156D+02	0.0	0.0
M	Y	0.563D+02	0.711D+02	0.0	0.0
L	N	-0.857D+01	0.378D+01	0.0	0.0
		0.239D+01	-0.610D+00	0.0	0.0
		0.364D+00	-0.109D+00	0.0	0.0
		0.179D+00	0.839D-01	0.0	0.0
		-0.158D-01	-0.625D-06	0.0	0.0
		0.346D-02	-0.157D-01	0.0	0.0
		-0.431D-02	-0.503D-07	0.0	0.0
		0.292D-03	-0.550D-02	0.0	0.0
		-0.107D+01	-0.208D-04	0.0	0.0
		0.234D-01	-0.108D+01	0.0	0.0
		0.269D+02	0.874D-02	0.0	0.0
		-0.621D+01	-0.264D+02	0.0	0.0
		-0.157D+01	0.346D-03	0.0	0.0
		0.202D+00	-0.126D+01	0.0	0.0
		QFU	QFP	QFDELB	QFDELT
		QFY	QFQ	QFDELS	QFBETA
		QFW	QFR	QFDELR	QFALPHA
		-0.571D-02	-0.117D+01	0.641D+00	0.131D+0
		0.245D-02	0.135D+01	0.376D-01	0.368D+0
		0.308D-01	-0.624D+00	0.416D-01	0.464D+0
		QRU	QRP	QRDELB	QRDELT
		QRV	QRQ	QRDELS	QRBETA
		QRW	QRR	QRDELR	QRALPHA
		-0.499D-02	0.233D+00	-0.642D+00	0.126D+0
		0.159D-02	0.271D+01	0.144D-01	0.239D+0
		0.533D-02	0.480D+00	-0.324D-01	0.807D+0

V FE 9.400000D+01	RC ALPHA 8.0 -5.229570D-01	GW ALFF 1.750000D+04 -2.524271D+00	RHO THETA 2.378000D-03 5.688599D-01	XF LW LF LW 9.559129D+02 7.553570D+03
VTF VTR 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -1.000000D+01 -6.236632D+00	PSI GAMMA 9.996884D+00 0.0	XR LW LR LW 1.202550D+03 9.813653D+03
THE0F THEOR 1.386691D+01 1.490430D+01	AICF AICR -2.078616D+00 6.021768D-01	BITF BITR 8.000000D-01 8.000000D-01	BICF BICR 8.000000D-01 8.000000D-01	DFW LFFF 1.358762D+03 -1.839830D+01
THETAC 1.438461D+01	DELTAB -3.035518D+00	DELtas -9.039361D-01	DELIAR -2.506791D-01	DEL TAC 5.724502D+00
TF TR 7.605362D+03 9.870171D+03	HF HR 3.586753D+02 5.776107D+02	YF YR -1.625731D+02 4.069984D+01	MHF MHR 1.291296D+03 1.955371D+03	LHF LHR -4.674516D+02 6.573981D+02
QF QR 1.158660D+04 1.418255D+04	LFZ DFX -3.079921D+01 1.3585537D+03	YFY MF 2.112463D+03 -5.020168D+03	LF NF 2.496946D+03 5.403390D+03	RHPF RHPR 5.824278D+02 7.129194D+02
XR 1.690055D+03	L'/DE 5.657901D+00	SHPTOT 1.395347D+03	WFF 1.396347D+03	NMLB 6.803465D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS'R 5.384214D-02 6.995601D-02	CPSF CPS'R 3.221362D-03 3.943101D-03	AMTF AMTR 7.719846D-01 7.749210D-01	LAMDAF LAMDAR -4.689713D-02 -5.105131D-02
MUF MUR 2.242198D-01 2.256880D-01	VF VR 5.438065D+00 6.9746682D+00	DFFR DFRF 1.531606D+00 1.778118D-02	DFF DFF 8.899751D-01	AOF AOF 2.763672D+00 3.714829D+00
AIF AIR 1.930484D+00 2.940485D+00	B1F B1R -1.116731D+00 1.607167D+00	BETAOF BETAOR 5.795151D-01 4.791806D-01	B180F B180R 4.479841D+00 6.383369D+00	A270F A270R 5.514023D+00 7.310138D+00
CAPVF CAPVR 1.604705D+02 1.617342D+02	ALPHAF ALPHAR -9.912624D+00 -1.033529D+01	BETAFW BETARW 3.498486D+02 3.499154D+02	ATIPF ATIPR 3.519075D+02 3.554175D+02	BPTPF BPTPR 2.230214D+00 3.351035D+00

CASE 21

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90 RA		
4.889826D-01	5.355205D-02	5.540600D-01		
4.853568D-01	6.957522D-02	8.8552701D-01		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHP TOT	NMLB
	DELHPR	RHPR	WFF	RP
2.016788D+01	6.025957D+02	1.441717D+03	6.584796D-02	
2.620226D+01	7.391217D+02	1.442717D+03	1.152339D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 9.500000D+01 4.400000D+01	RC ALPHA 0.0 6.275181D-01	GW ALFF 1.750000D+04 -1.41525D+00	RHO THETA 2.378000D-03 7.215231D-01	XF LW LF LW 8.387498D+02 7.560987D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 0.0 -3.738592D-01	PSI GAMA -3.666461D-03 0.0	XR LW LR LW 1.107626D+03 9.849952D+03
THE0F THE0R 1.351494D+01 1.467908D+01	A1CF A1CR 2.459160D-01 -1.306320D-02	B1TF B1TR 1.000000D+00 1.000000D+00	B1CF B1CR 1.000000D+00 1.000000D+00	DFW LFFW 1.352242D+03 4.376642D+01
THE1AC 1.409701D+01	DELTAB -3.164436D+00	DELTIAS 8.944550D-02	DELTAR 4.490118D-02	DELTAC 5.501558D+00
TF TR 7.599878D+03 9.897802D+03	HF HR 3.374620D+02 5.309386D+02	YF YR 6.631763D+01 5.704896D+01	MHF MHR 1.247762D+03 1.699861D+03	LHF LHR 6.764066D+02 6.795665D+02
QF QR 1.076821D+04 1.350560D+04	LFZ DFX 5.857361D+01 1.351682D+03	YFY MF 1.168487D+02 -3.668543D+03	LF NF 3.601027D+02 6.941909D+02	RHPF RHPR 5.412898D+02 6.788910D+02
XR 1.409665D+03	L/DE 5.616628D+00	SHPTOT 1.320181D+03	WFF 1.321181D+03	NMLB 7.190538D-02
SIG0F SIG0R 5.841923D-02 5.841923D-02	CTSF CTS0R 5.424020D-02 7.003608D-02	CPSF CPSR 2.993831D-03 3.754892D-03	AMTF AMTR 7.735651D-01 7.746765D-01	LAMDAF LAMDAR -4.281494D-02 -4.773437D-02
MUF MUR 2.248644D-01 2.261815D-01	VF VR 5.437475D+00 7.007273D+00	DFFR DFRF 1.625179D+00 8.424715D-16	DFF 1.95538D-01	AOF AOR 2.761244D+00 3.697075D+00
AIF AIR 2.026357D+00 2.761055D+00	B1F B1R 1.098318D+00 1.103450D+00	BETA0F BETA0R 5.085403D-01 6.442305D-01	B180F B180R 4.577999D+00 6.189371D+00	A270F A270R 5.459316D+00 7.199776D+00
CAPVF CAPVR 1.604493D+02 1.616688D+02	ALPHAF ALPHAR -8.872482D+00 -9.486471D+00	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -6.846125D+00 -3.611426D+00	BPTPF BPTPR 2.304870D+00 2.973387D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR P	A90RA	
4.872868D-01	5.360464D-02	4.803326D-01	
4.855728D-01	6.983256D-02	8.535647D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	HMLB
DELHPR	RHPR	WFF	RP
2.018768D+01	5.614775D+02	1.366668D+03	6.946132D-02
2.629917D+01	7.051901D+02	1.367668D+03	1.215573D+03

STABILITY NOT CALCULATED FOR THIS CASE. SKIPPING TO NEXT CASE

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
9.500000D+01	0.0	1.750000D+04	2.378000D-03	9.096908D+02
4.400000D+01	-3.777316D-01	-2.379267D+00	5.347378D-01	7.569820D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	1.000000D+01	-9.993886D+00	1.206069D+03
7.050000D+02	0.0	5.023063D+00	0.0	9.827782D+03
THE0F	AICF	B1CF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFFW
1.389950D+01	2.779677D+00	8.000000D-01	8.000000D-01	1.357231D+03
1.488628D+01	-7.319594D-01	8.000000D-01	8.000000D-01	-1.342871D+01
THE1AC	DELTAB	DELTAIS	DELTAR	DELTAC
1.439189D+01	-2.992786D+00	1.183653D+00	3.650228D-01	5.730146D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.614404D+03	3.880280D+02	3.310920D+02	1.523642D+03	1.959304D+03
9.885915D+03	5.555005D+02	5.611761D+01	1.704629D+03	6.310667D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	MF	RHPR
1.161283D+04	-2.237611D+01	-1.801110D+03	-2.223887D+03	5.837465D+02
1.412918D+04	1.357113D+03	-5.031441D+03	-4.858148D+03	7.102368D+02
XR	L/DE	SHPTOT	HFF	HMID
1.642497D+03	5.580530D+00	1.393983D+03	1.394983D+03	6.810117D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTS _R	CPS _R	AMTR	LAMDAR
5.841923D-02	5.437102D-02	3.228656D-03	7.35998D-01	-4.635112D-02
5.841923D-02	7.016267D-02	3.928264D-03	7.742912D-01	-5.058008D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.243164D-01	5.447240D+00	1.533974D+00	8.885520D-01	2.816100D+00
2.257605D-01	6.985408D+00	1.778718D-02		3.724578D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
1.923176D+00	3.577648D+00	6.252766D-01	4.510557D+00	5.736099D+00
2.905427D+00	5.241884D-01	5.074138D-01	6.356041D+00	7.285348D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.606703D+02	-9.769820D+00	1.014715D+01	3.520454D+02	4.061795D+00
1.617234D+02	-1.021251D+01	1.008156D+01	3.555277D+02	2.952334D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.851065D-01	5.366726D-02	A90F	A90RA	
4.863332D-01	6.967539D-02	5.075717D-01	9.006487D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHFF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.921127D+01	6.039578D+02	1.440435D+03	6.590656D-02	
2.623998D+01	7.364768D+02	1.461435D+03	1.153365D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHS	XF LW
FE	ALPHA	ALFF	THETA	LF LW
9.50000D+01	0.0	1.75000D+04	2.378000D-03	1.204753D+03
4.40000D+01	-3.619701D+00	-5.704292D+00	5.638724D-01	7.720607D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	-2.190042D+01	2.000000D+01	-2.026786D+01	1.511944D+03
7.05000D+02	0.0	1.141547D+01	0.0	9.794585D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFF
1.490668D+01	4.067409D+00	3.000000D-01	3.000000D-01	1.236228D+03
1.5558769D+01	-1.824804D+00	3.000000D-01	3.000000D-01	-4.361191D+02
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.524718D+01	-2.676850D+00	1.949383D+00	3.388164D-01	6.393165D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
7.798497D+03	4.925865D+02	4.229592D+02	2.062994D+03	2.294968D+03
9.8909215D+03	6.352419D+02	-1.610812D+00	1.904988D+03	3.365919D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RHPR
1.401878D+04	-5.132967D+02	-3.890518D+03	-3.792963D+03	7.046876D+02
1.6332692D+04	1.206228D+03	-1.056174D+04	-6.145572D+03	8.207114D+02
XR	L/DE	SHPTOT	WF	HMLB
2.488727D+03	5.676408D+00	1.625399D+03	1.626399D+03	5.841125D-02
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LAMDAR
5.841923D-02	5.531976D-02	3.897571D-03	7.725290D-01	-5.709983D-02
5.841923D-02	7.048212D-02	4.533929D-03	7.729858D-01	-5.938010D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR	DFF	AOF
2.223478D-01	5.551401D+00	1.278374D+00	8.802969D-01	2.957840D+00
2.241474D-01	6.973781D+00	6.772319D-02		3.8088021D+00
AIF	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
1.837087D+00	4.664989D+00	8.868767D-01	4.584565D+00	6.334800D+00
3.092114D+00	-5.601192D-01	4.263525D-01	6.656900D+00	7.664612D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARM	ATIPR	BPTPR
1.605508D+02	-1.248333D+01	2.045449D+01	3.487174D+02	5.013683D+00
1.618296D+02	-1.245024D+01	2.028301D+01	3.524724D+02	3.142435D+00

CASE 16

PAGE 4

	ZFF	NFF	TP
	YFF	NFF	
XFF	0.0	0.0	0.0
LFF	0.0	0.0	
0.0	0.0	0.0	
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.868512D+01	5.473628D+02	7.191624D+01	
4.881328D+01	6.944004D+02	1.084543D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPP	SHPTOT	NMLB
	RHPR	WIFF	RP
2.061387D+01	7.253014D+02	1.672164D+03	5.677865D-02
2.615135D+01	8.466628D+02	1.673164D+03	9.936263D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.936870D-02	2.420838D-01	1.135450D-01	5.290784D-01
1.261792D-03	6.591153D-01	-9.209094D-02	1.899791D-01
4.875044D-02	-8.051763D-02	-7.245223D-02	7.340007D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.349487D-02	-8.300234D-02	6.193588D-01	-9.655055D+00
3.255528D-02	-2.854091D-01	1.166400D+00	4.901617D+00
-9.100902D-01	-3.629566D-01	-1.989514D-01	-1.370258D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.737938D-03	1.432132D-01	4.903288D-01	2.289364D-01
-5.445778D-03	-1.293729D+00	-4.067656D-02	-8.199321D-01
2.040228D-02	-3.393853D-01	-1.95534D-01	3.071826D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-3.798170D-02	-8.629551D-01	1.908563D-01	1.045433D-01
-1.631877D-01	-1.748287D-01	8.509314D-01	-2.457001D+01
6.245190D-02	-2.517499D-01	-2.388678D-01	9.402938D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-3.202626D-03	-6.386897D-01	2.103349D-02	-2.756530D-02
-5.100636D-03	9.932509D-02	3.621827D-01	-7.679363D-01
9.347014D-03	-5.682626D-02	-1.842437D-01	1.407313D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.554420D-05	5.804925D-02	4.910696D-02	3.929539D-02
-4.031387D-03	-2.058005D-01	7.161097D-03	-6.069773D-01
-3.949852D-04	-6.000171D-02	1.163937D-01	-5.947011D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.886D-05	-0.625D-02	0.105D-03	0.157D-01	0.162D-02	0.550D-01
CTR	0.287D-05	0.202D-02	0.861D-04	0.130D-01	0.170D-02	0.427D-01
CHF	0.725D-06	0.511D-03	0.747D-05	0.112D-02	0.191D-03	0.486D-02
CHR	0.216D-05	0.152D-02	0.677D-05	0.102D-02	0.194D-04	0.443D-02
A1F	0.426D-03	0.300D+00	0.788D-03	0.119D+00	0.661D-01	0.685D+00
AIR	0.482D-03	0.339D+00	0.639D-03	0.962D-01	0.720D-01	0.610D+00
VFR	-0.465D-01	-0.328D+02	0.182D+00	0.273D+02	0.291D+01	0.937D+02
VRR	-0.340D-01	-0.240D+02	0.149D+00	0.225D+02	0.302D+01	0.708D+02
LF			0.348D+02	0.524D+04		
DF			0.647D+01	0.975D+03		
NF			0.336D+03	0.505D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.166D-05	-0.249D-03	-0.533D-04	-0.693D-04	0.305D-02
CYR	0.201D-05	0.303D-03	0.141D-03	0.131D-04	0.431D-02
B1F	-0.161D-03	-0.242D-01	-0.499D-01	-0.160D-01	0.952D+00
B1R	0.167D-03	0.252D-01	0.800D-01	0.774D-03	0.992D+00
YF	-0.799D+02	-0.120D+05			
LF	0.212D+02	0.320D+04			
NF	-0.400D+03	-0.602D+05			
CTF					-0.593D-02
CTR					0.694D-02

FORCE = 0.2414446D+07

X	Z	H	Y	L	N	CTF	BICR	OMEGAF	OMEGAR
0.845D+01	0.554D+02	0.154D+02	0.720D+02	0.357D+01	0.387D+01	-0.157D-01	-0.198D-06	0.0	0.0
0.854D+02	0.563D+02	0.724D+00	0.372D+00	0.315D+01	0.563D+00	-0.168D+01	-0.159D-01	0.0	0.0
0.857D+01	0.563D+01	0.724D+00	0.372D+00	0.563D+00	0.566D+00	-0.168D+01	-0.116D-07	0.0	0.0
0.563D+00	0.566D+00	0.372D+00	0.329D+01	0.566D+00	0.566D+00	-0.168D+01	-0.547D-02	0.0	0.0
0.563D+00	0.566D+00	0.329D+01	0.0	0.0	0.0	-0.168D+01	-0.678D-05	0.0	0.0
0.566D+00	0.0	0.0	0.0	0.0	0.0	-0.168D+01	-0.107D+01	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.267D+02	-0.995D-03	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.631D+01	-0.267D+02	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.359D+01	-0.243D-04	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	-0.967D-01	-0.741D+00	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	QFU	QFP	QFDLB	QFDLTAC
0.0	0.0	0.0	0.0	0.0	0.0	QFV	QFQ	QFDLS	QFBETA
0.0	0.0	0.0	0.0	0.0	0.0	QFW	QFR	QFDLR	QFALPHA
0.0	0.0	0.0	0.0	0.0	0.0	-0.495D-02	0.132D+01	0.596D+00	0.121D+01
0.0	0.0	0.0	0.0	0.0	0.0	-0.205D-02	0.170D+01	-0.418D-01	-0.388D+00
0.0	0.0	0.0	0.0	0.0	0.0	-0.231D-01	-0.208D+00	-0.623D-01	-0.347D+01
0.0	0.0	0.0	0.0	0.0	0.0	QRU	QRP	QRDELB	QRDELTAC
0.0	0.0	0.0	0.0	0.0	0.0	QRV	QRQ	QRDELS	QRDBETA
0.0	0.0	0.0	0.0	0.0	0.0	QRW	QRR	QRDELR	QRALPHA
0.0	0.0	0.0	0.0	0.0	0.0	-0.530D-02	-0.550D-01	-0.623D+00	0.124D+01
0.0	0.0	0.0	0.0	0.0	0.0	-0.191D-02	0.265D+01	0.113D-01	-0.287D+00
0.0	0.0	0.0	0.0	0.0	0.0	0.290D-02	0.523D+00	-0.156D-01	0.436D+00

V FE 4.400000D+01	RC ALPHA -9.824897D+00	GW ALFF 1.750000D+04 -1.226533D+01	RHO THETA 2.378000D-03 1.149092D+00	XF LW LF LW 1.841639D+03 8.536456D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 3.000000D+01 1.865500D+01	PSI GAMMA -3.105970D+01 0.0	XR LW LR LW 2.170227D+03 1.012305D+04
THEOF THEOR 1.683207D+01 1.703935D+01	A1CF A1CR 5.290091D+00 -2.875076D+00	B1TF B1TR -6.000000D-01 -6.000000D-01	B1CF B1CR -6.000000D-01 -6.000000D-01	DFW LFW 1.223397D+03 -2.296454D+03
THETAC 1.693571D+01	DELTAB -2.165318D+00	DELTIAS 2.705123D+00	DELTAR 3.343152D-01	DELTAC 7.702099D+00
TF TR 8.701177D+03 1.032106D+04	HF YR 7.431277D+02 8.134584D+02	YF YR 5.337578D+02 -2.853328D+01	MHF MHR 2.975587D+03 2.382275D+03	LHF LHR 2.537588D+03 1.883889D+02
QF QR 1.951614D+04 2.121910D+04	LFZ DFX -2.471532D+03 8.135931D+02	YFY MF -6.156421D+03 -2.559835D+04	LF NF -4.693355D+03 -8.552998D+03	RHFP RHP 9.810254D+02 1.066629D+03
XR 4.386946D+03	L'DE 5.882470D+00	SHPTOT 2.147654D+03	WFF 2.148654D+03	NMLB 4.421373D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 6.186992D-02 7.349789D-02	CPSF CPSR 5.425974D-03 5.899438D-03	AMTF AMTR 7.705429D-01 7.704800D-01	LAMDAF LAMDAR -7.561623D-02 -7.596110D-02
MUF MUR 2.179696D-01 2.202673D-01	VF VR 6.164373D+00 7.239319D+00	DFFR DFRF 9.646119D-01 1.374361D-01	DFF 9.067776D-01	AOF AOR 3.489036D+00 4.100389D+00
A1F AIR 2.009318D+00 3.483880D+00	B1F B1R 6.026420D+00 -1.714728D+00	BETAOF BETAOR 1.203518D+00 3.120798D-01	B180F B180R 5.252107D+00 7.325755D+00	A270F A270R 7.664325D+00 8.445581D+00
CAPVF CAPVR 1.607379D+02 1.620475D+02	ALPHAF ALPHAR -1.705582D+01 -1.660665D+01	BETAFW BETARW 3.108363D+01 3.072401D+01	ATIPF ATIPR 3.426844D+02 3.466590D+02	BTPPF BTPPR 6.352566D+00 3.883003D+00

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	XFF	ZFF	MFF	TP
LFF	0.0	0.0	0.0	
	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR	A90RA	
4.848019D-01	6.052036D-02	1.133186D+00		
4.911453D-01	7.176875D-02	1.405161D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.279217D+01	1.003818D+03	2.197474D+03	4.321178D-02	
2.702835D+01	1.093657D+03	2.198474D+03	7.562062D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW LF LW
1.400000D+02 4.400000D+01	0.0 -7.338039D+00	1.750000D+04 -8.383189D+00	2.378000D-03 -4.792722D+00	1.874076D+03 8.474553D+03
VTF	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
VTR	-2.190042D+01 0.0	-1.000000D+01 -1.376268D+01	1.137551D+01 0.0	2.087999D+03 9.997142D+03
THE0F THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.885756D+01 1.928360D+01	-6.636868D+00 2.326511D+00	2.800000D+00 4.000000D+00	2.800000D+00 4.000000D+00	3.128496D+03 -1.507876D+03
THETAC	DELTAB	DELJAS	DELSTAR	DELTAC
1.907048D+01	-3.306606D+00	-2.296486D+00	-3.294604D+01	9.356962D+00
TF	HF HR	YF YR	MHF MHR	LHF LHR
8.656774D+03 1.019385D+04	6.248736D+02 6.229749D+02	-4.371922D+02 3.183540D+02	2.119437D+03 2.198525D+03	-1.217730D+03 1.866394D+03
QF QR	LFZ DFX	YFY MF	LF NF	RHFF RHPR
2.424513D+04 2.6966013D+04	-1.895106D+03 2.910283D+03	4.907681D+03 -2.312522D+04	9.118106D+03 7.432498D+03	1.218739D+03 1.355215D+03
XR	L/DE	SHPTOT	WFF	NMLB
3.830358D+03	7.323972D+00	2.673954D+03	2.674954D+03	5.233734D-02
SIGOF SIGOR	CTSF CTSFR	CPSF CPSPR	AMIF AMTR	LAMDAF LANDAR
5.841923D-02 5.841923D-02	6.103387D-02 7.183957D-02	6.740751D-03 7.495587D-03	8.343050D-01 8.402141D-01	-1.017593D-01 -9.591136D-02
MUF MUR	VF VR	DFFR DFRF	DFF	A0F A0R
3.214492D-01 3.252602D-01	4.188234D+00 4.910135D+00	1.200347D+00 1.697884D-02	9.439826D-01	3.393448D+00 3.953380D+00
A1F AIR	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
3.031780D+00 2.976601D+00	-2.564261D+00 3.618081D+00	-1.816641D-01 3.786329D-01	5.945284D+00 6.364570D+00	9.983011D+00 1.156677D+01
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
2.364755D+02 2.377280D+02	-1.659842D+01 -1.529434D+01	3.496453D+02 3.497680D+02	3.461937D+02 3.486386D+02	3.970784D+00 4.685153D+00

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	ZFF	MFF	TP
XFF	YFF	NFF	
LFF	0.0	0.0	0.0
0.0	0.0	0.0	
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
4.287735D+01	6.008149D-02	5.056267D-01	
4.201062D+01	7.087609D-02	4.561703D-01	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	SHPTOT	HMLB
DELHPPF	RHPR	WFF	RP
5.931366D+01	1.278053D+03	2.803238D+03	4.992443D-02
6.997031D+01	1.425185D+03	2.804238D+03	8.736775D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	NBETA
XW	XR	XDELR	NALPHA
-6.930580D-02	3.799906D-01	9.479646D-02	5.870503D-01
8.731110D-03	-2.639116D-01	6.865663D-02	2.017168D+00
5.280118D-02	-4.036418D-02	6.173769D-03	1.219877D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
5.198999D-02	-1.200791D+00	4.221020D-01	-1.131212D+01
-2.740828D-02	-9.110417D-01	-9.266754D-01	-6.332196D+00
-1.045109D+00	-9.023189D-01	2.6640056D-01	-2.414537D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	NBETA
MW	MR	MDELR	NALPHA
-3.148577D-03	3.478079D-01	5.406342D-01	2.404085D-01
2.670074D-03	-1.472172D+00	1.759967D-02	6.168730D-01
2.254864D-02	-3.120871D-01	1.439751D-01	5.209461D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.649059D-02	4.749988D-02	-4.968626D-02	-3.219722D-01
-2.304043D-01	1.233195D-01	9.182829D-01	-5.323081D+01
-6.186669D-02	-3.733391D-02	-1.227737D-01	-1.429320D+01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.876412D-03	-2.858518D-01	-5.758779D-02	-8.077558D-02
-1.350615D-02	1.341788D-01	3.735514D-01	-3.120356D+00
-1.240667D-02	2.388796D-02	-1.623602D-01	-2.866340D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
8.784080D-04	-6.262278D-03	6.993931D-02	-2.220837D-02
-8.667709D-05	-1.893052D-01	1.713449D-02	-2.002520D-02
-7.177602D-05	-7.318520D-02	1.386930D-01	1.658257D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.910D-05-0.642D-02	0.112D-03	0.258D-01-0	0.186D-02	0.626D-01	
CTR	-0.186D-05-0.131D-02	0.948D-04	0.219D-01-0	0.207D-02	0.523D-01	
CHF	0.118D-05 0.834D-03	0.891D-05	0.266D-02-0	0.139D-03	0.601D-02	
CHR	0.212D-05 0.150D-02	0.749D-05	0.171D-02-0	0.133D-03	0.508D-02	
AIF	0.425D-03 0.309D+00	0.120D-02	0.277D+00-0	0.180D+00	0.197D+01	
AIR	0.502D-03 0.354D+00	0.104D-02	0.249D+00-0	0.486D-01	0.976D+00	
VFR	-0.276D-01-0.194D+02	0.132D+00	0.306D+02-0	0.226D+01	0.730D+02	
VRR	-0.217D-01-0.153D+02	0.112D+00	0.258D+02-0	0.245D+01	0.600D+02	
LF		0.700D+02	0.162D+05			
DF		0.468D+01	0.108D+04			
MF		0.500D+03	0.115D+06			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.231D-05-0.534D-03	0.185D-04-0	0.877D-05	0.361D-02	
CYR	0.250D-05 0.578D-03	0.888D-05	0.463D-06	0.425D-02	
BIF	-0.264D-03-0.609D-01	0.684D-01-0	0.170D-01	0.105D+01	
BIR	0.318D-03 0.734D-01	0.614D-01	0.110D-02	0.100D+01	
YF	-0.116D+03-0.263D+05				
LF	-0.759D+02-0.175D+05				
NF	0.346D+01 0.798D+03				
CTF			0.400D-02		
CTR			-0.542D-02		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.647D+01	0.134D+02	0.0	0.0
Z	0.964D+02	0.113D+03	0.0	0.0
H	-0.128D+02	0.675D+01	0.0	0.0
Y	0.479D+01	0.219D+01	0.0	0.0
L	0.140D+01	0.461D+00	0.0	0.0
N	-0.386D+00	0.631D+00	0.0	0.0
CTF	-0.254D-01	0.895D-06	0.0	0.0
CTR	0.387D-02	-0.252D-01	0.0	0.0
CHF	-0.558D-02	0.105D-06	0.0	0.0
CHR	0.297D-03	-0.616D-02	0.0	0.0
AIF	-0.128D+01	0.277D-04	0.0	0.0
AIR	0.399D-01	-0.129D+01	0.0	0.0
VFR	-0.296D+02	-0.118D-01	0.0	0.0
VRR	0.466D+01	0.292D+02	0.0	0.0
QF	-0.276D+02	-0.365D-03	0.0	0.0
QR	0.334D+01	-0.248D+02	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFY	QFQ	QFDELS	QFBETA	
QFW	QFR	QFDELR	QRALPHA	
-0.136D-01	-0.111D+01	0.119D+01	0.256D+01	
0.736D-02	0.345D+00	0.892D-01	0.170D+01	
0.101D+00	-0.110D+01	0.130D+00	0.234D+02	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QRBETA	
QRW	QRR	QRDELR	QRALPHA	
-0.858D-02	-0.769D+00	-0.150D+01	0.261D+01	
0.163D-02	0.345D+01	0.782D-01	0.376D+00	
0.842D-01	0.102D+01	-0.1194D+00	0.194D+02	

V FE 1.400000D+02 4.400000D+01	RC ALPHA 0. -6.015657D+00	GW ALFF 1.750000D+04 -7.040340D+00	RHO THETA 2.378000D-03 -4.726253D+00	XF LW LF LW 1.672813D+03 8.355122D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -7.000000D+00 -1.031481D+01	PSI GAMMA 7.923307D+00 0.0	XR LW LR LW 1.696344D+03 9.948374D+03
THEOF THEOR 1.821050D+01 1.8680625D+01	AICF AICR -3.846315D+00 1.055793D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.040294D+03 -1.116372D+03
THETAC 1.8443838D+01	DELTAB -3.361301D+00	DELTAIS -1.628809D+00	DELTAR -4.764326D-01	DELTAC 8.874710D+00
TF TR 8.499276D+03 1.011018D+04	HF HR 6.071199D+02 5.911984D+02	YF YR -3.6631945D+02 1.559441D+02	MHF MHR 2.051822D+03 2.017321D+03	LHF LHR -1.032902D+03 1.302125D+03
QF QR 2.214888D+04 2.491453D+04	LFZ DFX -1.428848D+03 2.906556D+03	YFY MF 3.651497D+03 -2.083123D+04	LF NF 6.312276D+03 8.201292D+03	RHF RHPF 1.113326D+03 1.252388D+03
XR 3.388699D+03	L/DE 7.457297D+00	SHPTOT 2.465714D+03	HFF HFF 2.466714D+03	NMLB 5.675566D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 6.054602D-02 7.162681D-02	CPSF CPSP 6.157719D-03 6.926861D-03	AMTF AMTR 8.356849D-01 8.405219D-01	LAMDAF LANDAR -9.495692D-02 -8.928799D-02
MUF MUR 3.233527D-01 3.269039D-01	VF VR 4.118437D+00 4.873574D+00	DFFR DFRF 1.266034D+00 8.453449D-03	DFF DFF 9.406592D-01	AOF AOF 3.367457D+00 3.896226D+00
AIF AIR 3.096008D+00 2.988809D+00	B1F B1R -2.083078D+00 2.505807D+00	BETAOF BETAOR -2.917388D-01 2.945668D-01	B180F B180R 5.992957D+00 6.330017D+00	A270F A270R 9.713381D+00 1.127372D+01
CAPVF CAPVR 2.364626D+02 2.376716D+02	ALPPHAF ALPHAR -1.540807D+01 -1.414327D+01	BETAFW BETARN 3.527776D+02 3.528565D+02	ATIPF ATIPR 3.475804D+02 3.499732D+02	BPTPF BPTPR 3.731552D+00 3.900263D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.271113D-01	5.923977D-02	4.685564D-01	
4.205086D-01	7.053034D-02	3.947115D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHP TOT	WMLB
DELHPR	RHPR	WFF	RP
5.847776D+01	1.171804D+03	2.593821D+03	5.395362D-02
6.962898D+01	1.322017D+03	2.594821D+03	9.441884D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE 4.400000D+02	RC ALPHA -5.189087D+00	GW ALFF -6.210490D+00	RHO THETA -4.677193D+00	XF LW LF LW 6.256075D+03
VTF VTR 7.050000D+02	CGF CGL 0.0	BETAF PHI -6.208454D+00	PSI GAMMA 0.0	XR LW LR LW 9.932745D+03
THEOF THEOR 1.772197D+01	AICF AICR -2.491172D+00	B1TF B1TR 2.800000D+00	B1CF B1CR 2.800000D+00	DFW LFW 3.000347D+03
1.830740D+01	-1.088497D+01	4.000000D+00	4.000000D+00	-8.281219D+02
THETAC 1.801469D+01	DELTAB -3.462776D+00	DELTIAS -8.029394D-01	DELTAR -4.870066D-01	DELTAC 8.538518D+00
TF TR 8.385969D+03 1.007836D+04	HF HR 5.650385D+02 5.565270D+02	YF YR -2.158295D+02 1.618037D+01	MHF MHR 1.984786D+03 1.838115D+03	LHF LHR -3.928552D+02 7.818346D+02
QF QR 2.375130D+04	LFZ DFX -1.096084D+03 2.913154D+03	YFY MF 2.128397D+03 -1.834978D+04	LF NF 2.910193D+03 7.354735D+03	RHFF RHPR 1.036847D+03 1.193915D+03
XR 3.163815D+03	L/DE 7.751348D+00	SHPTOT 2.330762D+03	WFF 2.331762D+03	NMLB 6.004043D-02
SIGOF SIGOR 5.841923D-02	CTSF CTSR 5.931551D-02	CPSF CPSR 5.734718D-03	AMTF AMTR 8.375636D-01	LAMDAF LAMDAR -9.066276D-02
MUF MUR 3.278683D-01	VF VR 4.090977D+00 4.880262D+00	DFFR DFRF 1.293822D+00 2.780542D+03	DFF 9.429986D-01	A0F A0R 3.922434D+00
ALF AIR 3.170181D+00	B1F B1R -8.677569D-01	BETAOF BETAOR -5.437945D-01	B180F B180R 5.882509D+00	A270F A270R 9.199528D+00
2.888046D+00	1.478514D+00	3.0380119D-01	6.184181D+00	1.082540D+01
CAPVF CAPVR 2.364550D+02	ALPHAF ALPHAR -1.465589D+01	BETAFW BETARW 3.558822D+02	ATIPF ATIPR 3.484812D+02	BPTPF BPTPR 3.286800D+00
2.376228D+02	-1.3406682D+01	3.559248D+02	3.5066990D+02	3.244505D+00

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CASE 26

	ZFF	YFF	MFF	TP
XFF	0.0	0.0	0.0	
LFF	0.0	0.0	0.0	
RMTF		CTFP	A90F	
RMTR		CTR	A90RA	
4.257954D-01	5.853256D-02		3.377872D-01	
4.210248D-01	7.041954D-02		4.157966D-01	

2

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHP TOT	NMLB
	RHPR	WFF	RP
DELHPF			
DELHPR			
5.778453D+01	1.094631D+03	2.458066D+03	5.693218D-02
6.951960D+01	1.263435D+03	2.459066D+03	9.963131D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 1.400000D+02 4.400000D+01	RC ALPHA 0. -4.771221D+00	GW ALFF 1.750000D+04 -5.806163D+00	RHO THETA 2.378000D-03 -4.719358D+00	XF LW LF LW 1.510007D+03 8.242134D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0. 0.	BETAF PHI 0. -1.078736D+00	PSI GAMMA 8.682697D-02 0. 0.	XR LW LR LW 1.750724D+03 1.004020D+04
THEOF THEOR 1.750638D+01 1.821566D+01	AICF AICR -2.156472D-01 -2.888377D-01	BITF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.007278D+03 -8.240659D+02
THETAC 1.786202D+01	DELTAB -3.558120D+00	DELTIAS 4.083777D-02	DELTAR -8.873988D-02	DELTAC 8.420173D+00
TF TR 8.360014D+03 1.017632D+04	HF HR 5.683794D+02 5.595238D+02	YF YR 6.366139D+01 7.331848D+01	MHF MHR 2.047580D+03 1.768572D+03	LHF LHR 8.391776D+02 9.809335D+02
QF QR 1.997480D+04 2.358386D+04	LFZ DFX -1.071348D+03 2.928314D+03	YFY MF 3.485681D+02 -1.648164D+04	LF NF 9.852589D+02 1.461579D+03	RHPF RHPR 1.006081D+03 1.185499D+03
XR 3.038264D+03	L/DE 7.650511D+00	SHPIOT 2.289579D+03	WFF 2.290579D+03	NMLB 6.111991D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 5.945271D-02 7.250157D-02	CPSF CPSPR 5.553491D-03 6.5556899D-03	AMIF AMIR 8.394945D-01 8.403180D-01	LAMDAF LAMDAR -8.846342D-02 -8.302350D-02
MUF MUR 3.250420D-01 3.283390D-01	VF VR 4.078487D+00 4.926921D+00	DFFR DFRF 1.316047D+00 6.435362D-11	DFF DFF 9.533944D-01	AOF AOF 3.233767D+00 3.986693D+00
A1F AIR 3.326431D+00 2.872755D+00	B1F B1R 1.362663D+00 1.592903D+00	BETAOF BETAOR -7.199627D-01 3.744364D-01	B180F B180R 6.025061D+00 6.229572D+00	A270F A270R 9.219130D+00 1.091623D+01
CAPVF CAPVR 2.364516D+02 2.376047D+02	ALPHAF ALPHAR -1.427122D+01 -1.303841D+01	BETAFW BETARW 3.204915D-18 3.172733D-18	ATIPF ATIPR 3.490552D+02 3.511015D+02	BPTPF BPTPR 3.594718D+00 3.284822D+00

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CASE 27

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.236124D-01	CTFP	A90F	A90RA	
4.204513D-01	CTR _P	5.843372D-02	2.786455D-01	
		7.118135D-02	4.251742D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WF	RP
5.768695D+01	1.0611768D+03	2.417538D+03	5.788621D-02	
7.027167D+01	1.255770D+03	2.418538D+03	1.013009D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

2

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.400000D+02	0.0	1.750000D+04	2.378000D-03	1.496033D+03
4.400000D+01	-4.8862975D+00	-5.905469D+00	-4.631058D+00	8.262278D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	4.000000D+00	-4.300793D+00	1.770321D+03
7.050000D+02	0.0	3.786951D+00	0.0	1.007511D+04
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.821293D+01	2.091497D+00	2.800000D+00	2.800000D+00	2.986500D+03
1.8227148D+01	-5.296864D-01	4.000000D+00	4.000000D+00	-9.048053D+02
THETAC	DELTAB	DELTIAS	DELIAR	DELTAC
1.794220D+01	-3.519994D+00	8.516214D-01	2.491217D-01	8.482328D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.375270D+03	5.985045D+02	3.423837D+02	2.171568D+03	1.912780D+03
1.021397D+04	5.627647D+02	1.214281D+02	1.721897D+03	1.114481D+03
QF	LFZ	YFY	LF	RHPPF
QR	DFX	MF	NF	RHPR
2.365216D+04	-1.160717D+03	-1.3666214D+03	-9.321865D+02	1.015402D+03
2.365216D+04	2.898217D+03	-1.655891D+04	-4.927316D+03	1.188932D+03
XR	L'DE	SHPTOT	WFF	NMLB
3.053178D+03	7.586155D+00	2.304333D+03	2.305333D+03	6.072874D-02
SIGOF	CISF	CPSF	AMTF	LANDAF
SIGOR	CTSR	CPSR	AMTR	LANDAR
5.841923D-02	5.944409D-02	5.616105D-03	8.399378D-01	-8.890953D-02
5.841923D-02	7.247485D-02	6.575889D-03	8.404386D-01	-8.349552D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
3.249317D-01	4.074372D+00	1.316238D+00	9.398561D-01	3.260948D+00
3.282401D-01	4.930670D+00	2.792273D-03		3.938815D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
3.296097D+00	3.352324D+00	-6.066975D-01	6.081290D+00	9.578855D+00
2.918348D+00	1.606632D+00	3.733529D-01	6.303690D+00	1.118707D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPV	ALPHAR	BETARW	ATIPR	BPTPR
2.36430D+02	-1.435069D+01	4.114054D+00	3.489131D+02	4.701311D+00
2.376112D+02	-1.311950D+01	4.072518D+00	3.510354D+02	3.331369D+00

CASE 26

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
4.213617D-01		CTFP	A90F	
4.205667D-01		CTRP	A90RA	
		5.857653D-02	2.979837D-01	
		7.142889D-02	3.908781D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHP TOT	NMLB
	DELHPR	RHPR	WF	RP
5.782794D+01	1.073229D+03	2.432677D+03	5.752611D-02	
7.051696D+01	1.259448D+03	2.433677D+03	1.066707D+03	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
1.400000D+02 4.400000D+01	-5.544026D+00	-6.566708D+00	-4.628972D+00	1.570683D+03 8.350641D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 7.000000D+00 7.417358D+00	PSI GAMMA -7.624096D+00 0.0	XR LW LR LW 1.852537D+03 1.004547D+04
THEOF THEOR 1.803004D+01 1.856528D+01	A1CF A1CR 3.417873D+00 -1.648976D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 2.980948D+03 -1.074161D+03
THETAC 1.829766D+01	DELTAB -3.407859D+00	DELTIAS 1.689601D+00	DELTAR 2.908540D-01	DELTAC 8.757875D+00
TF TR 8.473292D+03 1.019849D+04	HF HR 6.352825D+02 5.780144D+02	YF YR 5.004617D+02 -1.309476D+01	MHF MHR 2.347356D+03 1.684467D+03	LHF LHR 2.655106D+03 6.147493D+02
QF QR 2.150049D+04 2.476174D+04	LFZ DFX -1.357128D+03 2.863328D+03	YFY MF -2.765295D+03 -1.914194D+04	LF NF -4.145607D+03 -6.519158D+03	RHPF RHPR 1.080774D+03 1.244708D+03
XR 3.236619D+03	L/DE 7.275933D+00	SHPTOT 2.425481D+03	WFF 2.426481D+03	NMLB 5.769672D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS'R 6.046316D-02 7.260496D-02	CPSF CP'SR 5.977673D-03 6.884379D-03	AMTF AMTR 8.394934D-01 8.392499D-01	LAMDAF LANDAR -9.230455D-02 -8.677058D-02
MUF 3.240694D-01 3.275056D-01	VF VR 4.112582D+00 4.919261D+00	DFFR DFRF 1.283471D+00 8.481659D-03	DFF DFF 9.355788D-01	A0F A0R 3.368298D+00 4.060791D+00
A1F AIR 3.242196D+00 2.838843D+00	B1F B1R 4.759759D+00 6.505643D-01	BETAOF BETAOR -4.825709D-01 5.390989D-01	B180F B180R 6.114264D+00 6.345586D+00	A270F A270R 9.926115D+00 1.132914D+01
CAPVF CAPVR 2.364623D+02 2.376454D+02	ALPHAF ALPHAR -1.494009D+01 -1.369267D+01	BETAFW BETARW 7.136230D+00	ATIPF ATIPR 3.481982D+02 3.502948D+02	BPIPF BPTPR 5.759092D+00 2.912432D+00

CASE 29

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.197505D-01	5.920300D-02	3.443006D-01		
4.2200013D-01	7.121869D-02	5.576267D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	MMLB
	DELHPR	RHPR	WFF	RP
5.8446640D+01	1.139220D+03	2.554236D+03	5.478946D-02	
7.030853D+01	1.315016D+03	2.555236D+03	9.588155D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.400000D+02	0.0	1.750000D+04	2.378000D-03	1.696801D+03
6.400000D+01	-6.585252D+00	-7.617835D+00	-4.496703D+00	8.420747D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	1.000000D+01	-1.104222D+01	2.005317D+03
7.050000D+02	0.0	1.144538D+01	0.0	9.978811D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFF
1.857221D+01	4.307969D+00	2.800000D+00	2.800000D+00	2.973881D+03
1.903438D+01	-3.008251D+00	4.000000D+00	4.000000D+00	-1.280940D+03
THETAC	DELTA _B	DELTIAS	DELTIAR	DELTJAC
1.880329D+01	-3.335032D+00	2.434958D+00	1.5559193D-01	9.149840D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.563938D+03	6.686501D+02	5.870566D+02	2.514674D+03	3.002023D+03
1.016232D+04	5.702912D+02	-1.909014D+02	1.680707D+03	5.172743D+01
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.314465D+04	-1.613538D+03	-4.237487D+03	-7.153236D+03	1.163421D+03
2.6466816D+04	2.807360D+03	-2.170754D+04	-5.835448D+03	1.330485D+03
XR	L/DE	SHPTOT	WFF	NMLB
3.563026D+03	7.083449D+00	2.593906D+03	2.594906D+03	5.395186D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS _R	CPS _R	AMTR	LANDAR
5.841923D-02	6.097615D-02	6.634788D-03	8.386868D-01	-9.754397D-02
5.841923D-02	7.232096D-02	7.358808D-03	8.378666D-01	-9.178807D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.226605D-01	4.154330D+00	1.228470D+00	9.354236D-01	3.450319D+00
3.262918D-01	4.899465D+00	1.707290D-02		4.003586D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.144620D+00	5.533844D+00	-3.197733D-01	6.08315D+00	1.022519D+01
2.701541D+00	-4.014923D-01	6.558545D-01	6.149414D+00	1.139652D+01
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.364744D+02	-1.585713D+01	1.033160D+01	3.470594D+02	6.364909D+00
2.376842D+02	-1.457464D+01	1.021538D+01	3.491163D+02	2.731212D+00

PAGE 4

CASE 18

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
4.193781D-01		CTFP	A90F	
4.240660D-01		CTR	A90RA	
		5.970003D-02	4.129364D-01	
		7.074613D-02	5.440048D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPPTOT	NMLB
	DELHPR	RHPR	WFP	RP
5.893707D+01		1.222358D+03	2.722685D+03	5.140095D-02
6.984201D+01		1.400327D+03	2.723685D+03	8.95167D+02

STABILITY DERIVATIVES OUTPUT

	MASS	IXX	IYY	IZZ
XU	5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XV		XP	XDELB	XDELTAC
XW		XQ	XDELS	XBETA
	-6.781306D-02	1.217102D-01	6.223720D-02	5.657267D-01
	-1.914946D-03	1.074900D-01	-6.367172D-02	-4.431103D-01
	4.980221D-02	-9.173188D-02	-4.521994D-02	1.152402D+01
ZU		ZP	ZDELB	ZDELTAC
ZV		ZQ	ZDELS	ZBETA
ZW		ZR	ZDELR	ZALPHA
	5.262141D-02	5.661828D-01	4.905123D-01	-1.127441D+01
	1.675975D-02	-1.043889D+00	9.059506D-01	3.878134D+00
	-1.037422D+00	-3.480721D-01	-5.309771D-02	-2.400549D+02
MU		MP	MDELB	MDELTAC
MV		MQ	MDELS	MBETA
MW		MR	MDELRL	MALPHA
	-3.075630D-03	3.2494463D-01	5.119713D-01	2.331922D-01
	-2.492285D-03	-1.308206D+00	-3.037999D-02	-5.766854D-01
	2.181739D-02	-4.378696D-01	-1.433194D-01	5.048450D+00
YU		YP	YDELB	YDELTAC
YV		YQ	YDELS	YBETA
YW		YR	YDELR	YALPHA
	-2.486259D-02	1.721857D-01	1.5339427D-01	4.177612D-01
	-2.445121D-01	-1.545913D-01	9.066311D-01	-5.657904D+01
	7.370288D-02	-2.235239D-01	-1.734001D-01	1.705453D+01
LU		LP	LDELB	LDELTAC
LV		LQ	LDELS	LBETA
LW		LR	LDELRL	LALPHA
	-2.8946684D-03	-3.509649D-01	-3.421559D-02	5.576207D-02
	-1.408315D-02	1.524978D-01	3.760463D-01	-3.258779D+00
	1.160313D-02	-1.030585D-03	-1.665919D-01	2.684914D+00
NU		NP	NDELB	NDELTAC
NV		NQ	NDELS	NBETA
NW		NR	NDELRL	NALPHA
	-1.356180D-03	7.406871D-02	1.066861D-01	3.350205D-02
	8.343880D-04	-2.727300D-01	1.183325D-02	1.930738D-01
	1.725046D-03	-1.176106D-01	1.172662D-01	3.991681D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.909D-05-0	0.641D-02	0.110D-03	0.254D-01-0	0.160D-02	0.619D-01
CTR	-0.196D-05-0	0.138D-02	0.953D-04	0.220D-01-0	0.184D-02	0.525D-01
CHF	0.101D-05-0	0.709D-03	0.101D-04	0.235D-02-0	0.141D-03	0.643D-02
CHR	0.219D-05-0	0.154D-02	0.688D-05	0.159D-02-0	0.768D-04	0.477D-02
AIF	0.408D-03-0	0.288D+00	0.120D-02	0.278D+00-0	0.831D-01	0.106D+01
AIR	0.504D-03-0	0.355D+00	0.104D-02	0.241D+00-0	0.650D-01	0.981D+00
VFR	-0.277D-01-0	0.195D+02	0.131D+00	0.302D+02-0	0.195D+01	0.722D+02
VR	-0.224D-01-0	0.158D+02	0.113D+00	0.261D+02-0	0.222D+01	0.603D+02
LF			0.682D+02	0.158D+05		
DF			0.409D+01	0.946D+03		
MF			0.495D+03	0.115D+06		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.242D-05-0	0.561D-03	0.622D-04-0	0.904D-04	0.345D-02
CYR	0.247D-05-0	0.571D-03	0.240D-04-0	0.404D-04	0.436D-02
B1F	-0.297D-03-0	0.686D-01-0	0.564D-01-0	0.205D-01	0.101D+01
B1R	0.368D-03-0	0.851E-01	0.737D-01	0.781D-03	0.106D+01
YF	-0.121D+03-0	0.280D+05			
LF	-0.876D+02-0	0.203D+05			
NF	0.136D+03	0.315D+05			
CTF			-0.453D-02		
CTR			0.479D-02		

FORCE = 0.241446D+07

X		Z		H		Y		L		H		CTF		BICF		OMEGAF		OMEGAR	
-0.746D+01	0.127D+02	-0.954D+02	0.114D+03	-0.129D+02	0.693D+01	-0.621D+01	0.157D+01	-0.473D+00	0.801D+00	-0.890D+00	0.137D-05	-0.256D-01	-0.161D-06	0.605D-02	-0.298D-04	-0.129D+01	0.113D-05	-0.254D+01	-0.556D+01
-0.166D+01	0.127D+02	-0.398D-01	0.574D-02	-0.574D-02	0.161D-06	-0.288D-03	0.605D-02	-0.128D+01	0.410D-01	-0.294D+02	-0.146D-01	-0.479D+01	0.249D+02	-0.311D+01	0.QFP	0.QDELB	0.QDELT/	0.254D+01	
-0.879D-01	0.599D-02	-0.122D-01	0.193D+01	-0.808D+00	0.111D+01	-0.711D+00	-0.154D+00	-0.879D-01	0.QFV	0.QFQ	0.QDELS	0.QFDEL	0.QFDEL/R	0.QFALPHA	0.QFBETA	0.QRDEL	0.QRDEL/R	-0.408D+01	
-0.863D-02	0.239D-02	-0.534D+00	0.327D+01	-0.123D+01	0.141D+01	-0.408D+01	-0.556D+01	-0.758D-01	0.QRV	0.QRQ	0.QRDLS	0.QRDEL	0.QRDEL/R	0.QRALPHA	0.QRBETA	0.QRDEL	0.QRDEL/R	-0.175D+01	
-0.863D-02	0.239D-02	-0.534D+00	0.327D+01	-0.123D+01	0.141D+01	-0.408D+01	-0.556D+01	-0.758D-01	0.QRW	0.QRQ	0.QRDLS	0.QRDEL	0.QRDEL/R	0.QRALPHA	0.QRBETA	0.QRDEL	0.QRDEL/R	-0.175D+01	

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 20 in. aft

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-45 kt swd	0 ft/min	-90 deg	
	-30			X
	-15			
	15		90	
	30			X
	45			

V FE	RC ALPHA	GW ALFFF	RHO THETA	XF LW LF LW
4.50000D+01	0.0	1.75000D+04	2.37800D-03	1.187356D+03
4.40000D+01	-9.00000D+01	-9.00000D+01	6.136366D+00	8.432267D+03
VTF	CGF	BETAF	PSI GAMMA	XR LW LR LW
VTR	CGL	PHI	0.00000D+01	1.709596D+03
7.05000D+02	-2.190042D+01	-9.536476D+00	0.0	1.102707D+04
7.05000D+02	0.0	-9.536476D+00		
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.347800D+01	-5.046543D-01	-2.500000D+00	-2.500000D+00	2.416993D+03
1.525259D+01	1.7866010D+00	-2.500000D+00	-2.500000D+00	-2.950554D-12
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.436530D+01	-1.388563D+00	-7.599984D-01	2.988161D-01	5.709532D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.508052D+03	3.549626D+02	1.711662D+02	1.285789D+03	5.726571D+02
1.114594D+04	5.356631D+02	-6.625642D+01	1.939743D+03	-1.699785D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.135111D+04	-2.416993D+03	2.650000D+03	-2.385000D+03	5.705907D+02
1.650333D+04	1.761218D-29	-2.416993D+03	2.650000D+03	8.295789D+02
XR	L/DE	SHPTOT	WFF	NNLB
1.957810D+04	-2.006435D+00	1.500170D+03	1.501170D+03	2.997663D-02
SIGOF	CISF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSF	ANTR	LANDAR
5.841923D-02	6.012154D-02	3.155892D-03	6.957951D-01	-3.705300D-02
5.841923D-02	7.895484D-02	4.588335D-03	6.981866D-01	-4.420727D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.063603D-01	1.235265D+01	2.317180D-01	7.597311D-01	3.155499D+00
1.063418D-01	1.582119D+01	8.643176D-02		4.318408D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETATOR	B180R	A270R
8.716990D-01	-2.113071D+00	2.238275D+00	3.985056D+00	4.168707D+00
2.115337D-01	3.156043D+00	4.039947D+00	4.466319D+00	5.999342D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
7.623750D+01	-1.040422D+01	2.684143D+02	2.613717D+02	2.285810D+00
7.652435D+01	-1.156421D+01	2.688290D+02	2.632115D+02	3.163124D+00

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PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
5.636127D-01		CTFP	A90F	
5.587724D-01		CTR P	A90RA	
		5.978170D-02	1.722731D+00	
		7.817791D-02	2.485533D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHTTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.706654D+00	5.732973D+02		1.5066416D+03	2.985241D-02
3.539556D+00	8.331185D+02		1.507416D+03	5.224172D+02
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
3.000000D+01	0.0	-9.000000D+01	2.378000D-03	6.584239D+02
4.400000D+01	-9.000000D+01	-9.000000D+01	5.7728864D+00	7.990518D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	-2.190042D+01	-9.000000D+01	9.000000D+01	1.189113D+03
7.050000D+02	0.0	-4.649652D+00	0.0	1.053272D+04
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFW
1.290501D+01	1.461873D-01	-2.500000D+00	-2.500000D+00	1.172108D+03
1.475633D+01	1.555809D+00	-2.500000D+00	-2.500000D+00	-2.861711D-12
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.383067D+01	-1.448606D+00	-4.694178D-01	3.689712D-01	5.295096D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
8.010019D+03	3.485610D+02	1.659999D+02	1.408899D+03	6.274982D+02
1.058782D+04	5.002495D+02	3.571616D+01	1.823114D+03	1.468460D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.006035D+04	-1.172108D+03	1.285104D+03	-1.156594D+03	5.057073D+02
1.511260D+04	6.832746D-30	-1.172108D+03	1.285104D+03	7.596710D+02
XR	L'DE	SHPTOT	WFF	NMLB
1.852756D+04	-4.721477D+00	1.365378D+03	1.366378D+03	2.195585D-02
SIGDF	CTSF	CPSF	AMTF	LANDAF
SIGOR	CTSR	CPSR	AMTR	LANDAR
5.841923D-02	5.682638D-02	2.797027D-03	6.739119D-01	-3.265589D-02
5.841923D-02	7.502127D-02	4.201680D-03	6.760736D-01	-4.124125D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
7.164099D-02	1.663412D+01	2.444375D-01	8.945913D-01	2.942495D+00
7.163807D-02	2.093139D+01	1.118500D-01		4.074129D+00
AI F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
9.881758D-01	-2.301606D+00	1.934674D+00	3.912532D+00	3.349814D+00
-2.676862D-01	2.9588925D+00	4.311177D+00	3.776250D+00	5.007584D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
5.090858D+01	-7.202257D+00	2.692331D+02	2.614882D+02	2.504772D+00
5.115525D+01	-9.146332D+00	2.694337D+02	2.627323D+02	2.971008D+00

CASE 19

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.854926D-01	5.664986D-02	1.860285D+00		
5.8145801D-01	7.467313D-02	2.743317D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
9.712512D-01	5.066785D+02	1.367630D+03	2.191973D-02	
1.280257D+00	7.609513D+02	1.368630D+03	3.835953D+02	

STABILITY DERIVATIVES OUTPUT

	MASS	IXX	IYY	IZZ
	5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB XDELS XDELR	XDELTAC XBETA XALPHA	
XV	XQ			
XW	XR	9.130899D-01	9.956776D-02	7.520299D-01
7.332448D-03				
-5.783407D-02	1.020502D+00	9.834816D-02	-1.840916D-01	
5.646495D-02	-4.898627D-02	-4.763326D-03	1.797335D-01	
ZU	ZP	ZDELB ZDELS ZDELR	ZDELTAC ZBETA ZALPHA	
ZV	ZQ			
ZW	ZR	-4.224570D-01	1.462523D-01	-7.482519D+00
-6.927271D-02				
4.804065D-01	1.698049D+00	-9.273331D-01	1.529181D+00	
-6.048690D-01	-4.463466D-01	8.560348D-02	-1.925358D+00	
MU	MP	MDELB MDELS MDELR	MDELTAC MBETA MALPHA	
MV	MQ			
MW	MR	2.743476D-03	3.522793D-01	8.703893D-02
8.673495D-04				
-1.820822D-02	-1.036350D+00	2.044493D-02	-5.795856D-02	
8.243008D-03	-2.222365D-01	1.395298D-01	2.623831D-02	
YU	YP	YDELB YDELS YDELR	YDELTAC YBETA YALPHA	
YY	YQ			
YW	YR	4.6844635D-01	3.978791D-02	3.387275D-01
-9.4455920D-02	-1.466550D+00	9.460357D-01	-3.006730D-01	
-1.921500D-02	8.861910D-02	-1.936768D-01	-6.116325D-02	
LU	LP	LDELB LDELS LDELR	LDELTAC LBETA LALPHA	
LV	LQ			
LW	LR	-1.715030D-02	-7.820691D-01	-3.090302D-02
-5.580920D-03	1.779123D-01	3.777240D-01	5.904947D-02	
3.279661D-03	-5.229490D-02	-1.787178D-01	-1.776462D-02	
NU	NP	NDELB NDELS NDELR	NDELTAC NBETA NALPHA	
NV	NQ			
NW	NR	2.104444D-03	1.350051D-02	4.215039D-02
-1.138686D-03	1.568392D-01	1.362406D-02	-2.236639D-03	
4.349850D-04	-4.185403D-02	1.286801D-01	-3.624551D-03	
			1.384600D-03	

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.870D-05	0.613D-02	0.680D-04	0.216D-03-0	0.143D-02	0.386D-01
CTR	0.580D-05	0.409D-02	0.632D-04	0.201D-03	0.108D-02	0.380D-01
CHF	0.156D-05	0.110D-02	0.308D-05	0.980D-05-0	0.293D-03	0.160D-02
CHR	0.226D-05	0.160D-02	0.319D-05	0.102D-04-0	0.136D-03	0.192D-02
AIF	0.886D-03	0.624D+00	0.283D-03	0.900D-03-0	0.384D-01	0.183D+00
AIR	0.889D-03	0.627D+00	0.248D-03	0.791D-03	0.399D-01	0.185D+00
VFR	0.491D-01	0.346D+02	0.407D+00	0.130D+01-0	0.834D+01	0.170D+03
VRR	0.331D-01	0.234D+02	0.391D+00	0.124D+01	0.664D+01	0.147D+03
LF			0.134D+02	0.428D+02		
DF			0.167D-30	0.531D-30		
NF			0.134D+02	0.428D+02		

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.278D-05	-0.885D-05	-0.137D-03	-0.485D-04	0.351D-02	
CYR	0.219D-05	0.697D-05	0.195D-03	-0.600D-05	0.454D-02	
B1F	-0.206D-03	-0.654D-03	-0.347D-01	-0.463D-02	-0.363D-01	
B1R	-0.188D-03	-0.598D-03	-0.372D-01	-0.101D-02	0.143D-01	
YF	-0.394D+02	-0.125D+03				
LF	0.354D+02	0.113D+03				
NF	-0.394D+02	-0.125D+03				
CTF			0.423D-02			
CTR			-0.469D-02			

FORCE = 0.241446D+07

	X	Z	H	Y	L	N	BICF	BICR	OMEGAF	OMEGAR
CTR	0.150D+02	0.200D+02	0.183D+01	0.183D+01	0.0	0.0	0.0	0.0	0.0	0.0
CHF	0.236D+01	0.117D+01	-0.117D+01	0.0	0.0	0.0	-0.341D-02	-0.187D-06	0.0	0.0
CHR	-0.933D+00	-0.246D+00	-0.388D+00	0.0	0.0	0.0	-0.845D-06	-0.451D-02	0.0	0.0
AIF	0.330D-01	0.101D-01	0.167D-03	0.0	0.0	0.0	-0.169D-03	-0.101D-01	0.0	0.0
AIR	-0.169D-03	-0.162D+00	-0.682D-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VFR	0.544D-01	0.544D-01	0.549D+00	0.0	0.0	0.0	-0.735D-01	-0.253D-02	0.0	0.0
VRR	-0.735D-01	-0.556D-04	0.195D+00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QFU	QFP	QFP	QFP	QFP	QFP	QFP	QFDLB	QFDLB	QFDLTAC	QFDLTAC
QFV	QFQ	QFQ	QFQ	QFQ	QFQ	QFQ	QFDLS	QFDLS	QFBETA	QFBETA
QW	QFR	QFR	QFR	QFR	QFR	QFR	QFDLR	QFDLR	QFALPHA	QFALPHA
-0.671D-03	0.770D+00	0.427D+00	0.427D+00	0.427D+00	0.427D+00	0.427D+00	0.875D+00	0.875D+00	0.875D+00	0.875D+00
-0.292D-03	0.164D+01	-0.157D-01	-0.157D-01	-0.157D-01	-0.157D-01	-0.157D-01	-0.930D-03	-0.930D-03	-0.930D-03	-0.930D-03
-0.681D-02	-0.117D+00	-0.233D-01	-0.233D-01	-0.233D-01	-0.233D-01	-0.233D-01	-0.217D-01	-0.217D-01	-0.217D-01	-0.217D-01
QRU	QRF	QRF	QRF	QRF	QRF	QRF	QRDELB	QRDELB	QRDELTAC	QRDELTAC
QRV	QRQ	QRQ	QRQ	QRQ	QRQ	QRQ	QRDELS	QRDELS	QRFBETA	QRFBETA
QRW	QRR	QRR	QRR	QRR	QRR	QRR	QRDELR	QRDELR	QRFALPHA	QRFALPHA
-0.533D-03	0.132D+00	-0.604D+00	-0.604D+00	-0.604D+00	-0.604D+00	-0.604D+00	0.124D+01	0.124D+01	0.124D+01	0.124D+01
0.410D-02	0.119D+01	-0.856D-02	-0.856D-02	-0.856D-02	-0.856D-02	-0.856D-02	0.131D-01	0.131D-01	0.131D-01	0.131D-01
-0.508D-02	0.411D+00	0.148D-01	0.148D-01	0.148D-01	0.148D-01	0.148D-01	-0.162D-01	-0.162D-01	-0.162D-01	-0.162D-01

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PAGE 3

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
1.500000D+01 4.400000D+01	-9.000000D+01	-9.000000D+01	5.665137D+00	2.226931D+03 7.503416D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI -9.000000D+01 -2.916722D+00	PSI GAMMA 9.000000D+01 0.0	XR LW LR LW 2.971584D+03 9.947140D+03
THEOF THEOR 1.381416D+01 1.546058D+01	A1CF A1CR 6.905805D-01 1.137210D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 7.284667D+02 -2.667836D-12
THETAC 1.463737D+01	DELTAB -1.288282D+00	DELTIAS -1.489457D-01	DELSTAR 4.016231D-01	DELIAC 5.920441D+00
TF TR 7.819297D+03 1.037006D+04	HF HR 3.450698D+02 4.877192D+02	YF YR 1.750109D+02 7.700752D+01	MHF MHR 1.494862D+03 1.713912D+03	LHF LHR 7.653115D+02 2.965685D+02
QF QR 1.2353369D+04 1.764610D+04	LFZ DFX -7.284667D+02 2.123280D-30	YFY MF 7.986937D+02 -7.284667D+02	LF NF -7.188243D+02 7.986937D+02	RHPF RHPR 6.209876D+02 8.870234D+02
XR 1.812121D+04	L'DE 1.042380D+00	SHP10T 1.608011D+03	WFF 1.609011D+03	NMLB 9.322497D-03
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSFR 5.556814D-02 7.415426D-02	CPSF CPSR 3.434633D-03 4.906056D-03	AMTF AMTR 6.517902D-01 6.5336461D-01	LANDAF LANDAR -4.422810D-02 -5.1106664D-02
MUF MUR 3.589068D-02 3.589012D-02	VF VR 2.241737D+01 2.715141D+01	DFFR DFFR 3.394354D-01 2.760905D-01	DFF 1.355813D+00	AOF AOF 2.958646D+00 4.094814D+00
A1F AIR 1.222484D+00 -4.986008D-01	B1F B1R -2.438108D+00 2.780890D+00	BETAOF BETAOR 1.682016D+00 4.583475D+00	B180F B180R 4.168962D+00 3.585224D+00	A270F A270R 3.194547D+00 4.621817D+00
CAPVF CAPVR 2.677011D+01 2.681338D+01	ALPHAF ALPHAR -1.905716D+01 -1.932558D+01	BETAFW BETARW 2.696485D+02 2.625014D+02	ATIPF ATIPR 2.617225D+02 2.825234D+00	BPTPF BPTPR 2.727423D+00 2.825234D+00

CASE 31

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
RMTF		CTFP	A90F	
RMTTR		CTR P	A90RA	
6.081536D-01	5.319648D-02	2.416042D+00		
6.046754D-01	7.052159D-02	3.415617D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMILB
	DELHPR	RHPR	WFF	RP
0.0	6.209876D+02	1.608011D+03	9.322497D-03	
0.0	8.870234D+02	1.609011D+03	1.631437D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE 1.50000D+01 4.40000D+01	RC ALPHA 0.0 -9.00000D+01	GW ALFF 1.75000D+04 -9.00000D+01	RHO THETA 2.378000D-03 5.699297D+00	XF LW LF LW 2.185004D+03 7.522716D+03
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL -2.190042D+01 0.0	BETAF PHI 9.00000D+01 2.635444D+00	PSI GAMMA -9.00000D+01 0.0	XR LW LR LW 2.965052D+03 9.943689D+03
THEOF THEOR 1.390824D+01 1.532818D+01	A1CF A1CR 1.725540D+00 3.127114D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 7.260419D+02 -2.912189D-12
THETAC 1.461821D+01	DELTAB -1.111065D+00	DELJAS 4.757617D-01	DELTAR 3.845339D-01	DELTAC 5.905586D+00
TF TR 7.825275D+03 1.036632D+04	HF HR 3.613499D+02 4.559484D+02	YF YR 1.561517D+02 1.738742D+02	MHF MHR 1.686340D+03 1.475041D+03	LHF LHR 7.259932D+02 5.471968D+02
QF QR 1.258733D+04 1.719939D+04	LFZ DFX -7.260419D+02 2.116213D-30	YFY MF -7.894347D+02 -7.260419D+02	LF NF -7.104913D+02 -7.894347D+02	RHPF RHPR 6.327322D+02 8.645681D+02
XR 1.812221D+04	L/DE 1.057085D+00	SHPTOT 1.597300D+03	WFF 1.598300D+03	NMLB 9.384970D-03
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS R 5.531057D-02 7.334416D-02	CPSF CPSP 3.499592D-03 4.781858D-03	AMTF AMTR 6.534319D-01 6.506654D-01	LAMDAF LAMDAR -4.413295D-02 -5.100591D-02
MUF MUR 3.589851D-02 3.589805D-02	VF VR 2.245585D+01 2.717926D+01	DFFR DFFR 3.396796D-01 2.762761D-01	DFF 1.355024D+00	AOF AOR 2.958566D+00 4.036610D+00
A1F AIR -1.199453D+00 8.751503D-01	B1F B1R 2.730116D+00 -2.400562D+00	BETAOF BETAOR 4.150218D+00 3.151904D+00	B180F B180R 1.749758D+00 4.904132D+00	A270F A270R 3.303106D+00 4.423306D+00
CAPVF CAPVR 2.674114D+01 2.678613D+01	ALPHAF ALPHAR -1.884005D+01 -1.912221D+01	BETAFW BETARW 9.043177D+01 9.031882D+01	ATIPF ATIPR 2.593005D+02 2.638752D+02	BPTPF BPTPR 2.981982D+00 2.555110D+00

	XFF	ZFF	NFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTTR	0.0	0.0	0.0	0.0
6.062901D-01	5.333331D-02	2.372362D+00		
6.081584D-01	7.049713D-02	3.4555885D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WFF	RP
0.0	6.327322D+02	1.597300D+03	9.384970D-03
0.0	8.645681D+02	1.598300D+03	1.662370D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 20

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V FE	RC ALPHA 0.0	GW ALFF 1.75000D+04	RHO THETA 2.37800D-03	XF LW LF LW
3.00000D+01 4.40000D+01	-9.00000D+01	-9.00000D+01	5.79904D+00	5.991335D+02 8.005480D+03
VTF VTR	CGF CGL 7.05000D+02 7.05000D+02	BETAF PHI 9.00000D+01 4.388175D+00	PSI GAMMA -9.00000D+01 0.0	XR LW LR LW 1.189312D+03 1.052536D+04
THEOF THEOR	A1CF A1CR 2.085373D+00	B1TF B1TR -2.50000D+00	B1CF B1CR -2.50000D+00	DFW LFFFW
1.313126D+01 1.461379D+01	-1.955758D-01	-2.50000D+00	-2.50000D+00	1.168550D+03 -2.853024D-12
THETAC	DELTAB -1.160033D+00	DELTA S 7.517824D-01	DELTAR 3.459736D-01	DELTAC 5.327539D+00
TF TR	HF HR 3.753207D+02 4.558786D+02	YF YR 1.361271D+02 1.985623D+02	MHF MHR 1.772107D+03 1.3466046D+03	LHF LHR 6.591059D+02 6.157497D+02
QF QR	LFZ DFX -1.168550D+03 6.812003D-30	YFY MF -1.270579D+03 -1.168550D+03	LF NF 1.143521D+03 -1.270579D+03	RHFF RHFR 5.327966D+02 7.373866D+02
XR 1.853026D+04	L/DE -4.785329D+00	SHPTOT 1.370183D+03	WFF 1.371183D+03	NMLB 2.187891D-02
SIGOF SIGOR	CTSF CTSR 5.693748D-02 7.5555962D-02	CPSF CPSR 2.946856D-03 4.078427D-03	AMTF AMTR 6.758756D-01 6.730374D-01	LAMDAF LAMDAR -3.241357D-02 -4.097182D-02
MUF MUR	VF VR 1.667846D+01 2.094948D+01	DFFR DFFR 2.444997D-01 1.118913D-01	DFF DFF 8.910065D-01	AOF AOR 2.970464D+00 4.087642D+00
AIF AIR	B1F B1R 2.864723D+00 -2.195295D+00	BETAOF BETAOR 4.034853D+00 3.082903D+00	B180F B180R 1.836808D+00 5.042019D+00	A270F A270R 3.560631D+00 4.847617D+00
CAPVF CAPVR	ALPHAF ALPHAR -6.959743D+00 -8.913475D+00	BETAFW BETARW 9.072525D+01 9.053553D+01	ATIPF ATIPR 2.593934D+02 2.639793D+02	BPTPF BPTPR 3.071016D+00 2.403835D+00

XFF	ZFF	NFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.830936D-01	5.675593D-02	1.809021D+00	
5.852849D-01	7.462095D-02	2.831431D+00	

NON UNIFORM DOMINASH POWER CORRECTIONS

DELHPF	RHPF	SHP10T	NMLB
DELHPR	RHPF RHPR	WFF	RP
9.730699D-01	5.337697D+02	1.372436D+03	2.184303D-02
1.279362D+00	7.386660D+02	1.373436D+03	3.822531D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.092210D+05	1.032000D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
8.747999D-03	2.445392D-01	6.071387D-02	7.608552D-01
-1.936989D-02	1.105021D+00	-9.352543D-02	-6.165626D-02
5.672737D-02	-5.170540D-02	-5.354798D-02	1.805688D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-7.446601D-02	2.666869D-01	1.471122D-01	-7.484126D+00
-2.175979D-01	1.731695D+00	9.195705D-01	6.926328D-01
-6.051875D-01	-2.586472D-01	-9.655346D-02	-1.926372D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
1.329173D-03	-1.305240D-02	3.548285D-01	8.566959D-02
-1.849596D-02	-9.216277D-01	-2.040282D-02	-5.887448D-02
8.154296D-03	-2.234112D-01	-1.347079D-01	2.595593D-02
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-4.672437D-01	-1.4684629D+00	8.212456D-02	-2.745448D-01
-8.102513D-02	1.521565D-01	9.391771D-01	-2.579110D-01
2.382053D-02	-2.219254D-01	-2.397130D-01	7.582311D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
1.657743D-02	-7.958263D-01	-4.241148D-03	-6.013970D-02
-4.132126D-03	1.559404D-01	3.780017D-01	-1.315296D-02
-3.227668D-03	-6.290152D-02	-1.933731D-01	-1.027399D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.720252D-03	3.207079D-02	2.912759D-02	4.493989D-04
-5.223082D-04	-1.439098D-01	1.135838D-02	-1.662559D-03
1.080177D-03	-4.235433D-02	1.300902D-01	3.438310D-03

LONGITUDINAL	U	MU	W	ALPHA	B	THETAC
CTF	0.107D-04	0.757D-02	0.679D-04	0.216D-03	0.127D-02	0.385D-01
CTR	0.688D-05	0.485D-02	0.634D-04	0.202D-03	0.912D-03	0.381D-01
CHF	0.173D-05	0.122D-02	0.339D-05	0.108D-04	0.196D-03	0.190D-02
CHR	0.227D-05	0.160D-02	0.283D-05	0.902D-05	0.156D-03	0.153D-02
A1F	0.897D-03	0.633D+00	0.298D-03	0.948D-03	0.342D-01	0.184D+00
AIR	0.884D-03	0.623D+00	0.241D-03	0.767D-03	0.341D-01	0.182D+00
VFR	0.613D-01	0.432D+02	0.405D+00	0.129D+01	0.762D+01	0.169D+03
VRR	0.374D-01	0.263D+02	0.390D+00	0.124D+01	0.584D+01	0.148D+03
LF		0.134D+02	0.134D+02	0.426D+02		
DF		0.167D-30	0.531D-30			
MF		0.134D+02	0.426D+02			

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.172D-05	-0.548D-05	-0.132D-03	-0.497D-04	0.337D-02
CYR	0.211D-05	0.672D-05	0.201D-03	0.310D-06	0.465D-02
B1F	0.337D-04	0.107D-03	0.366D-01	0.500D-02	0.658D-02
B1R	0.127D-03	0.405D-03	0.363D-01	0.235D-03	0.274D-01
YF	-0.348D+02	-0.111D+03			
LF	0.313D+02	0.997D+02			
NF	-0.348D+02	-0.111D+03			
CTF			-0.419D-02		
CTR			0.465D-02		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.151D+02	0.200D+02	0.0	0.0
Z	-0.209D+01	0.238D+01	0.0	0.0
Y	-0.907D+00	-0.114D+01	0.0	0.0
L	-0.241D+00	-0.389D+00	0.0	0.0
N	0.379D+01	-0.188D+00	0.0	0.0
	0.391D+01	0.313D+01	0.0	0.0
CTF	0.107D-03	-0.893D-06	0.0	0.0
CTR	-0.998D-05	0.184D-06	0.0	0.0
CHF	-0.342D-02	-0.266D-06	0.0	0.0
CHR	-0.438D-06	-0.454D-02	0.0	0.0
AIF	-0.600D-02	-0.989D-04	0.0	0.0
AIR	-0.109D-04	0.301D-01	0.0	0.0
VFR	0.515D+00	0.289D-01	0.0	0.0
VRR	-0.617D-01	0.199D-01	0.0	0.0
QF	0.112D+00	-0.821D-03	0.0	0.0
QR	0.946D-03	-0.126D+00	0.0	0.0
QFU	QFP	QFDELB	QFDELTAC	
QFY	QFQ	QFDELS	QBETAB	
QFW	QFR	QFDELR	QALPHAB	
-0.378D-03	0.321D+00	0.450D+00	0.918D+00	
-0.339D-02	0.138D+01	0.812D-02	-0.108D-01	
-0.403D-02	-0.229D+00	0.128D-01	-0.128D-01	
QRU	QRP	QRDELB	QRDELTAC	
QRV	QRQ	QRDELS	QBETAB	
QRW	QRR	QRDELR	QALPHAB	
-0.651D-03	-0.774D+00	-0.590D+00	0.122D+01	
-0.202D-02	0.122D+01	0.115D-01	-0.643D-02	
-0.702D-02	0.358D+00	-0.261D-01	-0.224D-01	

V FE	RC ALPHA 0.0 -9.00000D+01	GW ALFF 1.750000D+01 -9.00000D+01	RHO THETA 2.378000D-03 6.221596D+00	XF LW LF LW 1.097586D+03 8.464116D+03
VTF VTR	CGF CGL -2.190042D+01 0.0	BETAF PHI 9.000000D+01 9.177925D+00	PSI GAMMA -9.000000D+01 0.0	XR LW LR LW 1.715455D+03 1.101763D+04
THEOF THEOR	A1CF A1CR 2.593670D+00 -5.143075D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 2.411831D+03 -2.944253D-12
1.373781D+01 1.498672D+01	2.593670D+00 -5.143075D-01	DELTA S 1.036656D+00	DELTA R 3.640635D-01	DEL TAC 5.707182D+00
THETAC 1.436226D+01	-9.772339D-01	YF YR 1.287155D+02 2.844036D+02	MHF MHR 1.849457D+03 1.211426D+03	LHF LHR 6.287247D+02 8.100856D+02
TF TR	HF HR 3.974884D+02 4.611737D+02	YFY MF -2.622415D+03 -2.411831D+03	LF NF 2.360174D+03 -2.622415D+03	RHFF RHPR 6.021515D+02 7.881102D+02
QF QR	LFZ DFX -2.411831D+03 1.757456D-29	SMP TO 1.490262D+03	WFF WTF 1.491262D+03	NMLB 3.017579D-02
1.114081D+04 1.197897D+04	1.987736D+00 5.995580D-02	CTSF CPSF 3.330452D-03 4.358975D-03	AMTF AMTR 6.978493D-01 6.951687D-01	LAMDAF LAMDAR -3.646484D-02 -4.358616D-02
1.958845D+04	-1.987736D+00	L/DE 1.490262D+03	DFF DFFR 2.317396D-01 8.644438D-02	DFF AOF AOF 3.173073D+00 4.294391D+00
SIGOF SIGOR	CTS CTSR 5.995580D-02 7.899286D-02	CPSR CPSR 3.330452D-03 4.358975D-03	AMTF AMTR 6.978493D-01 6.951687D-01	LAMDAF LAMDAR -3.646484D-02 -4.358616D-02
5.841923D-02 5.841923D-02	VF VR 1.239290D+01 1.583287D+01	DFFR DFFR 2.317396D-01 8.644438D-02	DFF DFF 7.532682D-01	A270F A270R 4.294391D+00
MUF MUR	VR 1.239290D+01 1.583287D+01	BETA OF BETA OR 4.250939D+00 3.007947D+00	B180F B180R 2.025280D+00 5.5223D+00	A270F A270R 4.370331D+00 5.734691D+00
1.064653D-01 1.064481D-01	1.239290D+01 1.583287D+01	BETA OF BETA OR 4.250939D+00 3.007947D+00	B180F B180R 2.025280D+00 5.5223D+00	A270F A270R 4.370331D+00 5.734691D+00
A1F AIR	B1F B1R 2.976007D+00 -1.992811D+00	BETA OF BETA OR 4.250939D+00 3.007947D+00	B180F B180R 2.025280D+00 5.5223D+00	A270F A270R 4.370331D+00 5.734691D+00
-1.100521D+00 -1.276473D+00	-1.992811D+00			
CAPVF CAPVR	ALPHAF ALPHAR -1.005794D+01 -1.122324D+01	BETAFW BETARW 9.152585D+01 9.112679D+01	ATIPF ATIPR 2.593995D+02 2.642765D+02	BPTPF BPTPR 3.172974D+00 2.366576D+00
7.622953D+01 7.650905D+01				

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTF 5.609222D-01	0.0	0.0	0.0	
RMTF 5.631288D-01				

	CTFP	A90F
	CTR P	A90 RA
RMTF 5.609222D-01	6.000751D-02	1.695655D+00
RMTF 5.631288D-01	7.811096D-02	2.553916D+00

NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPPF	RHPTOT	NMLB
	RHPR	WFF	RP
DELHPPF	2.716378D+00	6.048684D+02	1.496515D+03
DELHPR	3.536523D+00	7.916467D+02	1.497515D+03

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-40 kt	0 ft/min	0 deg	X
	-20			
	0			X
	20			
	40			X
	60			
	80			X
	100			
	120			X
	140			
	146			X

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFFF	THETA	LF LW
-4.000000D+01	0.0	1.750000D+04	2.378000D-03	3.019673D+03
-4.490000D+01	1.884216D+02	1.998873D+02	8.489539D+00	9.988034D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	0.0	3.025670D+01
7.050000D+02	0.0	-1.600389D-01	0.0	7.538163D+03
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
1.572961D+01	-1.261619D+00	-2.500000D+00	-2.500000D+00	2.988240D+02
1.203218D+01	-2.135190D+00	-2.500000D+00	-2.500000D+00	4.586112D+02
THETAC	DELTAB	DELTAIS	DELTAR	DELTAC
1.388089D+01	2.893135D+00	2.902626D-01	-7.130912D-01	5.334026D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.043393D+04	1.109179D+02	-2.842139D+02	4.196611D+02	-1.158014D+03
7.536593D+03	1.567690D+02	-3.034675D+02	8.451883D+02	-1.590791D+03
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.823702D+04	-4.974307D+02	3.0496647D+01	1.078744D+02	9.167270D+02
7.969512D+03	-2.284354D+02	5.399274D+03	-3.424166D+02	4.006065D+02
XR	L'DE	SHPTOT	WF	NMLB
2.582264D+02	-1.483425D+00	1.417334D+03	1.4183334D+03	2.820211D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMIR	LAMDAR
5.841923D-02	7.376079D-02	5.07345D-03	6.910431D-01	-5.225937D-02
5.841923D-02	5.3311267D-02	2.215723D-03	6.910450D-01	-2.022791D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
9.580961D-02	1.562747D+01	9.626581D-08	1.012396D+00	4.068107D+00
9.579689D-02	1.258439D+01	1.785966D+00		2.672930D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
-6.806535D-01	1.880824D+00	4.664222D+00	3.332933D+00	5.669518D+00
-1.373652D+00	2.5833226D+00	4.000426D+00	1.262810D+00	3.252506D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARM	ATIPR	BTPPR
7.079660D+01	-1.743065D+01	1.799772D+02	1.782410D+02	2.00197D+00
6.755760D+01	-1.421613D+00	1.799772D+02	1.800482D+02	2.925650D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.682412D-01	7.081152D-02	2.616984D+00	
5.682454D-01	5.344282D-02	1.211261D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHFF	RHFF	SHPTOT	MMLB
DELHPR	RHPR	WFF	RP
0.0	9.167270D+02	1.417334D+03	-2.820211D-02
0.0	4.006065D+02	1.418334D+03	-4.935370D+02

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.539333D-02	4.099488D-01	3.272649D-01	8.939143D-01
-8.833915D-04	5.138824D-01	-6.899983D-03	-1.440202D-03
4.958865D-02	-3.047565D-01	-2.510945D-02	8.084488D-02
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
2.625270D-01	-4.489856D+00	-1.188235D+00	-6.175786D+00
-2.800219D-04	3.049429D+00	-7.659071D-03	-4.565226D-04
-4.786508D-01	9.242786D-01	-3.870672D-02	-7.803493D-01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
NW	MR	MDELR	MALPHA
-1.432290D-03	2.716318D-01	6.090984D-01	-2.592012D-01
2.464554D-03	-1.208013D+00	2.243245D-03	4.017988D-03
-2.955650D-02	-2.581782D-01	1.567343D-03	-4.816626D-02
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-1.431382D-04	-1.430537D+00	-1.897443D-01	1.106626D-01
5.508306D-02	1.625982D-01	9.058242D-01	8.980248D-02
1.204362D-02	-4.131996D-02	2.436822D-01	1.963484D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.737967D-04	-6.740914D-01	-9.346490D-02	2.078222D-02
-1.091544D-03	2.118490D-01	3.488514D-01	-1.779555D-03
4.306521D-03	2.069046D-04	-5.531881D-02	7.020965D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
5.550977D-04	-4.185958D-02	3.463103D-02	-1.498677D-03
-2.207968D-03	-1.510160D-01	1.253229D-02	-3.599672D-03
-7.257619D-04	-4.854839D-02	1.184490D-01	-1.183217D-03

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.389D-04-0.275D-01	0.191D-04	0.312D-04-0.200D-02	0.214D-01		
CTR	-0.225D-04-0.159D-01	0.809D-04	0.132D-03	0.132D-02	0.424D-01	
CHF	0.211D-05 0.148D-02	0.403D-06	0.657D-06-0.148D-03	0.148D-03	0.502D-03	
CHR	0.705D-06 0.497D-03	0.138D-05	0.225D-05-0.139D-03	0.225D-05	0.274D-03	
AIF	-0.592D-03-0.417D+00	0.183D-04	0.299D-04	0.673D-01	0.198D+00	
AIR	-0.350D-02-0.247D+00	0.199D-03	0.325D-03	0.766D-01	0.259D+00	
VFR	0.514D-02 0.362D+01	0.113D+00	0.184D+00	0.856D+01	0.455D+02	
YRR	0.783D-01 0.552D+02	0.371D+00	0.604D+00	0.577D+01	0.165D+03	
LF	0.203D+02 0.331D+02					
DF	0.192D+00 0.313D+00					
MF	-0.173D+03-0.283D+03					

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.228D-05-0.372D-05	-0.165D-03-0.296D-04	0.447D-02		
CYR	0.119D-05 0.193D-05	0.157D-03-0.203D-04	0.318D-02		
B1F	0.662D-03 0.108D-02	0.733D-01 0.166D-01	0.103D+01		
B1R	-0.652D-03-0.106D-02	-0.725D-01-0.790D-03	-0.102D+01		
YF	0.383D+02 0.625D+02				
LF	0.664D+02 0.108D+03				
NF	-0.206D+03-0.336D+03				
CTF		0.104D-03			
CTR		0.829D-04			

FORCE = 0.241446D+07

BICF	BICR	OMEGAF	OMEGAR	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	
X Z H Y L N	CTF	0.0	0.0	
	CTR	0.0	0.0	
	CHF	0.0	0.0	
	CHR	0.0	0.0	
	AIF	0.0	0.0	
	AIR	0.0	0.0	
	VFR	0.0	0.0	
	VRR	0.0	0.0	
	QF	0.0	0.0	
	QR	0.0	0.0	
	QFU	QFP	QFDLB	
	QFV	QFQ	QFDELS	
	QFW	QFR	QFDELR	
	-0.241D-02	-0.439D+00	0.759D+00	QFDLTAC
	0.336D-03	-0.310D+00	0.867D-02	QFBETA
	0.326D-02	-0.654D+00	0.121D-01	QFALPHA
	0.676D-02	0.108D+01	-0.329D+00	QRDELB
	0.913D-03	0.128D-01	-0.412D-02	QRDELS
	-0.188D-01	0.312D+00	0.718D-02	QRDELR
			-0.307D-01	QRDLTAC
				QRFBETA
				QRALPHA

V	RC	GW	RHO	XF LW
FE	A'PHA	ALFF	THETA	LF LW
-2.00000D+01	0.0	1.75000D+04	2.37800D-03	5.846776D+03
4.40000D+01	1.870352D+02	2.227666D+02	7.103045D+00	8.583952D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	0.0	-2.335680D+02
7.05000D+02	0.0	-1.256409D-01	0.0	7.558063D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEDR	A1CR	B1TR	B1CR	LF FW
1.662148D+01	-1.581122D+00	-2.500000D+00	-2.500000D+00	1.218582D+02
1.279729D+01	-2.506109D+00	-2.500000D+00	-2.500000D+00	4.375135D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.470939D+01	2.992320D+00	2.902158D-01	-8.578217D-01	5.976268D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.038209D+04	2.849400D+02	-3.236915D+02	9.806496D+02	-1.218827D+03
7.557919D+03	2.382123D+02	-3.527482D+02	1.154814D+03	-1.718296D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.154534D+04	-4.491445D+02	1.091260D+01	4.651632D+01	1.083028D+03
9.879244D+03	-6.735441D+01	3.751760D+03	-2.350362D+02	4.966037D+02
XR	L'DE	SHPTOT	WFF	NMLB
8.104580D+01	-6.379997D-01	1.679631D+03	1.680631D+03	1.190029D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS'R	CPS'R	AMTR	LAMDAR
5.861923D-02	7.369175D-02	5.990140D-03	6.607799D-01	-6.453478D-02
5.841923D-02	5.353508D-02	2.746676D-03	6.608468D-01	-3.080582D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR		AOR
4.786886D-02	2.111245D+01	3.718316D-08	1.255350D+00	4.160158D+00
4.791318D-02	2.169717D+01	1.188355D+00		2.766614D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
-1.591936D+00	1.979754D+00	5.773733D+00	2.556451D+00	5.120495D+00
-1.876667D+00	2.790544D+00	4.617025D+00	8.757774D-01	2.995270D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPIPF
CAPVR	ALPHAR	BETARM	ATIPR	BPIPR
4.162577D+01	-3.583201D+01	1.799854D+02	1.759433D+02	2.540411D+00
3.377880D+01	-3.520783D-02	1.799854D+02	1.781591D+02	3.362553D+00

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	XFF	ZFF	NFF	TP
LFF	0.0	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90RA		
5.996279D-01	6.085709D-02	3.595503D+00		
5.988055D-01	5.358391D-02	1.869622D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
0.0	1.083028D+03	1.679631D+03	-1.190029D-02	
0.0	4.966037D+02	1.680631D+03	-2.082551D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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CASE 2

PAGE 3

V FE 0.400000D+01	RC ALPHA 0.0	GW ALFF 1.750000D+04 2.700000D+02	RHO THETA 2.378000D-03 6.080074D+00	XF LW LF LW 1.044473D+04 4.516169D+02
VTF VTR 7.050000D+02	CGF CGL 0.0	BETAF PHI 0.0 -1.336795D-01	PSI GAMMA 0.0 0.0	XR LW LR LW 7.698259D+03 3.474366D+02
THEOF THEOR 1.528869D+01 1.392025D+01	AICF AICR -5.976773D-01 -1.055005D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW -3.001968D-14 -6.558026D+02
THETAC 1.460437D+01	DELTAB 1.070606D+00	DELTAIS 1.530075D-01	DELTAR -3.466204D-01	DELTAC 5.894861D+00
TF TR 1.044473D+04 7.698259D+03	HF HR 4.516169D+02 3.474366D+02	YF YR -1.122267D+02 -1.532298D+02	MHF MHR 1.567969D+03 1.567969D+03	LHF LHR -3.407801D+02 -7.284287D+02
QF QR 1.716799D+04 1.259249D+04	LFZ DFX -6.558026D+02 -3.001968D-14	YFY MF -1.466136D-14 2.623211D+03	LF NF -7.4188808D-14 4.819681D-13	RHFF RHPR 8.6299800D+02 6.329916D+02
XR 1.871790D+03	L/DE 0.0	SHPTOT 1.595982D+03	WFF 1.596982D+03	NMLB 0.0
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.372661D-02 5.431251D-02	CPSF CPSR 4.773130D-03 3.501027D-03	AMIF AMIR 6.316145D-01 6.315247D-01	LAMDAF LAMDAR -5.024936D-02 -4.578521D-02
MUF MUR 3.544064D-19 1.182887D-18	VF VR 3.399307D+01 2.749568D+01	DFFR DFRF 1.406733D-01 5.209670D-02	DFF 1.299000D+00	AGF AGR 3.968679D+00 2.931868D+00
AlF AIR 2.561952D+00 2.546679D+00	B1F B1R -5.533178D-01 -1.182801D+00	BETAOF BETAOR 1.547159D+00 3.380098D-01	B180F B180R 6.559368D+00 5.468527D+00	A270F A270R 3.930133D+00 2.795987D+00
CAPVF CAPVR 1.432718D+00 4.781919D+00	ALPHAF ALPHAR 2.700000D+02 2.700000D+02	BETAFW BETARW 0.0 0.0	ATIPF ATIPR -6.938048D+00 -4.453321D+00	BPTPF BPTPR 2.621022D+00 2.807951D+00

NADC-81118-60
Volume 4

CASE 2

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RHTR	CTR _P	A90RA	
6.295653D-01	3.201799D-03	3.807194D+00	
6.303396D-01	2.463199D-03	2.819192D+00	

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NON UNIFORM DOWNMASH POWER CORRECTIONS

DEIHPF	RHPF	SHPTOT	NMLB
DEIHPR	RHPR	WFF	RP
0.0	8.629900D+02	1.595982D+03	0.0
0.0	6.329916D+02	1.596982D+03	0.0

MAIN 00009720 000B5E58 00743808 000B4FF8

ENTRY POINT= 000B5E58

STANDARD FIXUP TAKEN , EXECUTION CONTINUING

STABILITY DERIVATIVES OUTPUT

MASS 5.439174D+02	IXX 1.499900D+04	IYY 1.139350D+05	IZZ 1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.024110D-02	-6.993699D+00	9.180524D-02	7.901756D-01
-4.208212D-04	9.791062D-01	-4.785076D-03	-1.339516D-03
1.542129D-01	-1.769108D-01	-2.584427D-02	4.908750D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.201191D-02	5.361461D+01	-4.662344D-02	-7.598239D+00
2.644276D-03	-4.007550D-01	-7.224329D-03	8.416991D-03
-1.842112D+00	2.901904D-01	-4.579740D-03	-5.863625D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-6.689125D-04	5.546158D+00	3.1748897D-01	-7.962490D-02
8.866019D-04	-5.648577D-01	-2.632735D-04	2.822142D-03
-1.487681D-01	-2.001905D-01	1.689774D-03	-4.735435D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
5.175245D-04	-1.753853D+00	-6.739637D-02	2.661687D-02
-2.857946D-01	-1.624813D-01	9.152516D-01	-9.097126D-01
4.284316D-02	-9.154405D-02	2.159834D-01	1.363740D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
1.058520D-04	-1.063890D+00	-6.111064D-02	-4.824957D-03
3.279965D-03	9.988249D-03	3.535249D-01	1.044045D-02
2.472621D-02	-9.591594D-03	-6.462400D-02	7.870596D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.229368D-04	2.986737D-01	4.095401D-02	-1.219457D-03
5.310390D-03	-1.5333278D-01	1.059346D-02	1.690350D-02
-1.487876D-02	-4.803755D-02	1.200670D-01	-4.736055D-02

LONGITUDINAL	U	MU	W	ALPHA	Q	THETAC
CTF	-0.348D-05-0.245D-02	0.364D-04	0.116D-03-0.405D-03	0.410D-01		
CIR	-0.120D-05-0.869D-03	0.392D-03	0.125D-02-0.754D-03	0.383D-01		
CHF	0.189D-05 0.133D-02	0.192D-05	0.611D-05-0.168D-03	0.184D-02		
CHR	0.126D-05 0.889D-03	0.173D-04	0.549D-04-0.637D-04	0.172D-02		
A1F	0.893D-02 0.629D+01	0.893D-02	0.284D-01-0.284D-01	0.402D-02		
A1R	0.887D-02 0.626D+01	0.892D-02	0.284D-01-0.739D-01	0.445D-02		
VFR	-0.935D-01-0.659D+02	0.563D+00	0.179D+01-0.901D+01	0.163D+03		
VRR	-0.544D-01-0.384D+02	0.255D+01	0.812D+01-0.941D+02	0.120D+02	0.169D+03	
LF		-0.296D+02-				
DF		-0.135D-14-0.431D-14				
MF		0.118D+03	0.376D+03			

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.205D-05-0.651D-05-0.143D-03-0.396D-04				0.444D-02
CYR	0.129D-05 0.412D-05	0.252D-03-0.190D-04			0.330D-02
B1F	0.893D-02 0.284D-01-0.716D-01	0.147D-01-0.103D+01			
B1R	-0.888D-02-0.283D-01	0.733D-01-0.436D-03			0.103D+01
YF	-0.147D+03-0.469D+03				
LF	0.133D+03 0.422D+03				
NF	0.590D+03 0.188D+04				
CTF			0.488D-05		
CTR			-0.244D-05		

FORCE = 0.241446D+07

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
2.00000D+01	0.0	1.75000D+04	2.378000D-03	2.320829D+02
4.40000D+01	4.751073D+00	-3.623093D+01	4.809105D+00	1.025323D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	-1.550715D-02	3.996940D+03
7.05000D+02	0.0	-1.922659D-01	0.0	6.434470D+03
THE0F	A1CF	B1TF	B1CF	DFW
THE0R	A1CR	B1TR	B1CR	LFW
1.435532D+01	2.443050D-01	-2.500000D+00	-2.500000D+00	3.644641D+01
1.462658D+01	-9.263466D-02	-2.500000D+00	-2.500000D+00	-3.235199D+02
THETAC	DELTAB	DELTAJ	DELTAR	DELTAC
1.449095D+01	-2.122592D-01	1.135013D-01	2.485908D-02	5.806938D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.023725D+04	6.175742D+02	4.303960D+01	2.069294D+03	2.439179D+02
7.560995D+03	4.574715D+02	-7.302820D+00	2.043836D+03	-3.286403D+00
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.394035D+04	-3.193895D+02	9.714641D+00	3.973887D+01	7.007451D+02
1.419366D+04	6.311732D+01	-3.079042D+02	-1.854832D+02	7.134782D+02
XR	L/DE	SHPIOT	WFF	NMLB
7.166556D+01	7.118588D-01	1.514223D+03	1.515223D+03	1.319937D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTS R	CP SR	AMTR	LANDAR
5.841923D-02	7.297343D-02	3.875766D-03	6.624753D-01	-4.150355D-02
5.841923D-02	5.343375D-02	3.946192D-03	6.639011D-01	-5.738026D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
4.774871D-02	2.645517D+01	8.535803D-01	1.278322D+00	3.950973D+00
4.787629D-02	1.651225D+01	6.5999722D-39		2.9331525D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.361747D+00	3.960417D-01	5.900162D-01	7.301423D+00	4.363483D+00
3.320343D+00	-5.335984D-03	-4.284881D-01	6.236607D+00	3.610018D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
3.377880D+01	-4.748927D+00	3.600000D+02	-1.387180D+00	3.384995D+00
4.136183D+01	-3.530998D+01	3.600000D+02	1.071415D+00	3.320347D+00

CASE 2

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.988139D-01	7.269167D-02	2.964479D+00	
5.996213D-01	4.561804D-02	2.411997D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
0.0	7.007451D+02	1.514223D+03	1.319937D-02
0.0	7.134782D+02	1.515223D+03	2.309891D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

5

V FE 4.000000D+01 4.400000D+01	RC ALPHA 0.0 3.362516D+00	GW ALFF 1.750000D+04 -8.972910D+00	RHO THETA 2.378000D-03 3.408402D+00	XF LW LF LW 3.402373D+02 1.011052D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -2.219548D-01	PSI CAGMMA -1.276625D-02 0.0	XR LW LR LW 2.526216D+03 7.139989D+03
THEOF THEOR 1.340768D+01 1.439793D+01	A1CF A1CR 5.770070D-01 4.265780D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 2.285003D+02 -1.822558D+02
THETAC 1.390280D+01	DELTAB -1.291271D+00	DELTIAS 5.213430D-02	DELTAR 2.012060D-01	DELTAC 5.351011D+00
TF TR 1.008894D+04 7.552682D+03	HF HR 7.426744D+02 5.640948D+02	YF YR 1.092168D+02 7.080684D+01	MHF MHR 2.488153D+03 2.482289D+03	LHF LHR 5.931004D+02 4.257083D+02
QF QR 1.070134D+04 1.3551058D+04	LFZ DFX -1.685397D+02 2.387968D+02	YFY MF 3.057796D+01 -1.058502D+03	LF NF 9.107663D+01 -7.993410D+01	RHFF RHPR 5.379281D+02 6.791415D+02
XR 2.564468D+02	L/DE 1.672068D+00	SHPTOT 1.317070D+03	WFF 1.318070D+03	NMLB 3.034741D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.216816D-02 5.328758D-02	CPSF CPSPR 2.975238D-03 3.756278D-03	AMTF AMTR 6.929207D-01 6.950348D-01	LAMDAF LAMDAR -3.342629D-02 -5.777145D-02
MUF MUR 9.527713D-02 9.563333D-02	VF VR 1.633983D+01 1.105008D+01	DFFR DFRF 1.553762D+00 6.134715D-41	DFF 1.066922D+00	AOF AOF 3.822721D+00 2.898525D+00
A1F A1R 4.043256D+00 4.033711D+00	B1F B1R 9.630357D-01 6.912201D-01	BETAOF BETAOR -2.554322D-01 -1.190242D+00	B180F B180R 7.826518D+00 6.893714D+00	A270F A270R 4.733708D+00 4.159422D+00
CAPVF CAPVR 6.755760D+01 7.366290D+01	ALPHAF ALPHAR -6.137484D+00 -2.375579D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.094228D+00 3.962274D-01	BPTPF BPTPR 4.156363D+00 4.092507D+00

CASE 3

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
5.688119D-01	7.167988D-02	2.076855D+00		
5.691264D-01	5.061991D-02	1.823236D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.573214D+00	5.405013D+02	1.321460D+03	3.024666D-02	
1.817188D+00	6.809587D+02	1.322460D+03	5.293166D+02	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDEL ⁴	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-1.803434D-02	2.481571D-01	3.288911D-02	3.903857D-01
-4.628347D-04	1.271820D+00	-8.670216D-03	-3.126980D-02
-4.498504D-02	-9.301403D-02	-2.714897D-02	3.039256D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.523795D-01	-8.392008D+00	9.229131D-01	-6.971821D+00
-1.059610D-02	-3.912429D+00	-3.774242D-03	7.158884D-01
-7.210730D-01	-4.824419D-01	1.079350D-02	-4.871676D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-5.904856D-03	-6.8394680D-01	4.211921D-01	3.903773D-02
-3.208960D-04	-1.198037D+00	-1.535829D-03	2.168021D-02
-3.834337D-03	-2.530636D-01	7.909597D-04	-2.590535D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.255006D-03	-1.391075D+00	6.099103D-02	2.651437D-02
-7.222982D-02	-3.402073D-01	8.904501D-01	-4.879954D+00
-1.117049D-03	-1.738289D-01	2.051926D-01	7.546947D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
2.647901D-04	-6.819795D-01	-1.216036D-02	-2.401072D-03
-8.096158D-03	6.135569D-03	3.479001D-01	-5.469884D-01
-1.600148D-03	-2.995955D-02	-6.488067D-02	1.081084D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.332568D-04	-3.177343D-02	3.347829D-02	6.168506D-04
-7.252198D-04	-1.346581D-01	9.913767D-03	4.899693D-02
-1.019305D-03	-4.092953D-02	1.167909D-01	-6.886576D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.980D+05	0.691D-02	0.837D-04	0.566D-02	-0.104D-02	0.430D-01
CTR	0.232D-04	0.163D-01	0.718D-04	0.485D-02	0.198D-02	0.279D-01
CHF	0.251D-05	0.177D-02	0.701D-05	0.474D-03	0.297D-03	0.406D-02
CHR	0.305D-05	0.215D-02	0.542D-05	0.366D-03	0.764D-04	0.264D-02
AIF	0.404D-03	0.285D+00	0.289D-03	0.195D-01	-0.747D-01	0.263D+00
AIR	0.429D-03	0.303D+00	0.237D-03	0.160D-01	-0.686D-01	0.227D+00
VFR	-0.175D+00	0.124D+03	0.340D+00	0.230D+02	-0.479D+01	0.156D+03
VRR	-0.277D-01	-0.195D+02	0.277D+00	0.187D+02	0.814D+01	0.782D+02
LF			0.164D+02	0.111D+04		
DF			0.342D+00	0.231D+02		
MF			0.280D+02	0.189D+04		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.176D-05	-0.119D-03	-0.207D-03	-0.514D-04	0.431D-02
CYR	0.134D-05	0.903D-04	0.107D-03	-0.123D-04	0.323D-02
BIF	0.667D-03	0.451D-01	-0.705D-01	-0.125D-01	0.103D+01
BIR	-0.672D-03	-0.454D-01	0.779D-01	-0.141D-02	0.103D+01
YF	-0.318D+02	-0.215D+04			
LF	-0.419D+02	-0.283D+04			
NF	0.824D+02	0.557D+04			
CTF				-0.729D-04	
CTR				-0.819D-05	

FORCE = 0.241446D+07

	X	Y	Z	BICR	OMEGAF	OMEGAR
CTF	0.0	0.0	0.0	0.0	0.0	0.0
CTR	0.0	0.0	0.0	0.0	0.0	0.0
CHF	0.0	0.0	0.0	0.0	0.0	0.0
CHR	0.0	0.0	0.0	0.0	0.0	0.0
AIF	0.0	0.0	0.0	0.0	0.0	0.0
AIR	0.0	0.0	0.0	0.0	0.0	0.0
VFR	0.0	0.0	0.0	0.0	0.0	0.0
VRR	0.0	0.0	0.0	0.0	0.0	0.0
QF	0.0	0.0	0.0	0.0	0.0	0.0
QR	0.0	0.0	0.0	0.0	0.0	0.0
QFU	0.216D+02	0.440D+00	0.894D+00	-0.612D-02	0.284D+01	-0.722D-02
QFY	0.284D+01	-0.722D-02	0.494D-02	0.731D-04	0.249D+00	-0.980D-02
QFW	-0.249D+00	-0.980D-02	-0.197D+01	-0.291D-01		
QRU	0.279D+00	-0.664D+00	0.110D+01	0.537D-02	0.285D+01	-0.141D-01
QRV	0.285D+01	0.384D-02	-0.171D+01	-0.208D-03	0.356D+00	-0.507D-02
QRW	0.356D+00	-0.507D-02		0.254D-01		

CASE 3

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
6.00000D+01	0.0	1.75000D+04	2.378000D-03	5.050885D+02
4.40000D+01	1.681682D+00	-3.625458D+00	1.718275D+00	1.001403D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	-7.052404D-03	1.361055D+03
7.05000D+02	0.0	-2.645004D-01	0.0	7.4664215D+03
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LF FW
1.323945D+01	2.283657D-01	-2.500000D+00	-2.500000D+00	5.380245D+02
1.355260D+01	1.689957D-01	-2.500000D+00	-2.500000D+00	-1.006197D+02
THETAC	DELIAB	DELTIAS	DELTAR	DELTAC
1.339603D+01	-1.606535D+00	2.109638D-02	7.641958D-02	4.958159D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
9.989655D+03	8.618389D+02	5.599614D+01	2.901327D+03	5.148429D+02
7.559551D+03	6.481981D+02	3.591885D+01	2.796705D+03	3.649538D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
9.863906D+03	-8.478712D+01	5.584674D+01	1.669863D+02	4.958327D+02
1.133070D+04	5.407457D+02	-1.826308D+03	2.795142D+00	5.695645D+02
XR	L/DE	SHPTOT	WFF	NMLB
5.603674D+02	3.035671D+00	1.165397D+03	1.166397D+03	5.144045D-02
SIGOF	CISF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	7.115041D-02	2.742412D-03	7.232453D-01	-3.535411D-02
5.841923D-02	5.380493D-02	3.150216D-03	7.248346D-01	-5.053046D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFFR		A0R
1.424034D-01	1.113914D+01	1.623750D+00	9.741242D-01	3.731737D+00
1.431208D-01	8.143564D+00	6.122041D-41		2.831280D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.716077D+00	8.359568D-01	-1.073853D+00	8.359870D+00	5.351046D+00
4.545650D+00	5.925695D-01	-1.788465D+00	7.302020D+00	4.460342D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPR
1.013364D+02	-7.818318D+00	3.600000D+02	-3.102242D+00	4.789593D+00
1.045753D+02	-1.523488D+01	3.600000D+02	-7.726682D-01	4.584111D+00

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CASE 3

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTR	0.0	0.0	0.0	0.0
5.395725D-01		CTFP	A90F	
5.395136D-01		CTR _P	A90RA	
	7.099584D-02		1.477889D+00	
	5.291856D-02		1.197784D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	HMLB
	DELHPR	RHPR	WFF	RP
7.512434D+00	5.033452D+02	1.178509D+03	5.086861D-02	
5.599584D+00	5.751641D+02	1.179509D+03	8.902008D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
8.000000D+01	0.0	1.750000D+04	2.378000D-03	7.450074D+02
4.400000D+01	1.239683D+00	-1.670778D+00	1.298156D+00	1.009131D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	-6.166608D-03	1.002038D+03
7.050000D+02	0.0	-2.895751D-01	0.0	7.346712D+03
THE0F	AICF	B1TF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFW
1.372871D+01	-2.088987D-01	-8.000000D-01	-8.000000D-01	9.589286D+02
1.342738D+01	-2.327000D-01	-8.000000D-01	-8.000000D-01	-1.283976D+00
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.357804D+01	-1.704746D+00	4.404580D-03	-1.042552D-01	5.099258D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.009366D+04	7.125487D+02	-3.017687D+00	2.330312D+03	3.880651D+02
7.398164D+03	4.954027D+02	-8.696718D+00	2.074644D+03	2.283379D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.095937D+04	1.946261D+01	8.413272D+01	2.623484D+02	5.508989D+02
1.079104D+04	9.587319D+02	-2.8662493D+03	6.871527D+01	5.424372D+02
XR	L/DE	SHPTOT	WFF	NMLB
9.946395D+02	4.530211D+00	1.193336D+03	1.1943336D+03	6.698282D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTS R	CPS R	AMTR	LAMDAR
5.841923D-02	7.131621D-02	3.046978D-03	7.520076D-01	-3.961682D-02
5.841923D-02	5.254344D-02	3.000177D-03	7.531565D-01	-4.786743D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFF		AO R
1.896645D-01	8.517628D+00	1.647000D+00	9.354278D-01	3.731134D+00
1.906850D-01	6.156793D+00	2.721243D-41		2.698029D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
3.786378D+00	6.300965D-01	-2.141135D-01	7.360188D+00	6.322570D+00
3.370450D+00	3.707445D-01	-8.107408D-01	5.939408D+00	4.914860D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.351152D+02	-8.260317D+00	3.600000D+02	-4.473939D+00	3.838448D+00
1.372348D+02	-1.159777D+01	3.600000D+02	-2.389867D+00	3.390779D+00

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CASE 4

	XFF	ZFF	MFF	TP
RMTF	LFF	YFF	NFF	
5.093695D+01	0.0	0.0	0.0	
5.094602D+01	0.0	0.0	0.0	0.0

	RMTF	CTFP	A90F	
RMTR		CTRP	A90RA	
5.093695D+01	7.154372D+02	1.099825D+00		
5.094602D+01	5.208550D+02	7.405840D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.615743D+01	5.670563D+02	1.221256D+03	6.545271D-02	
1.176299D+01	5.562002D+02	1.222256D+03	1.145422D+03	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.884332D-02	-6.625055D-02	1.527140D-02	3.918850D-01
-6.683406D-04	-1.519239D+00	-1.157637D-02	-9.032101D-02
5.275706D-02	-1.068324D-01	-3.036138D-02	7.129704D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.811370D-02	-2.557822D+00	8.780963D-01	-8.656375D+00
6.318435D-03	-4.509540D+00	1.553291D-02	8.538872D-01
-8.452095D-01	-3.836125D-01	4.963103D-02	-1.142235D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-6.835478D-03	-2.916078D-02	4.890095D-01	3.609783D-02
7.198799D-04	-1.380922D+00	-9.869957D-03	9.728615D-02
3.902169D-04	-2.574957D-01	7.869225D-04	5.273477D-02
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.263468D-03	-1.382841D+00	1.609893D-02	1.604348D-02
-1.180493D-01	-2.371122D-01	8.821685D-01	-1.595344D+01
-3.063630D-03	-1.545805D-01	2.099570D-01	-4.140257D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.140625D-04	-6.569827D-01	-8.340908D-03	-4.662149D-04
-7.560960D-03	-2.257552D-02	3.454377D-01	-1.021805D+00
1.168534D-03	-2.785932D-02	-6.176757D-02	1.579183D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
5.420424D-05	-3.289116D-02	2.557713D-02	-7.151742D-04
-7.111457D-04	-1.006618D-01	9.947663D-03	-9.610579D-02
-1.105471D-03	-3.994284D-02	1.154045D-01	-1.493958D-01

LONGITUDINAL		U	MU	W	ALPHA	Q	THETAC
CTF	-0.475D-05-0	335D-02	0.181D-03	0.137D-01-0	121D-02	0.520D-01	
CTR	0.933D-05	0.653D-02	0.759D-04	0.103D-01	0.229D-02	0.355D-01	
CHF	0.129D-05	0.916D-03	0.911D-05	0.123D-02	0.317D-03	0.563D-02	
CHR	0.181D-05	0.128D-02	0.546D-05	0.737D-03	0.495D-04	0.343D-02	
A1F	0.339D-03	0.239D+00	0.631D-03	0.853D-01	0.792D-01	0.570D+00	
A1R	0.363D-03	0.256D+00	0.468D-03	0.632D-01	0.602D-01	0.477D+00	
VFR	-0.706D-01-0	498D+02	0.206D+00	0.279D+02	0.253D+01	0.105D+03	
VRR	-0.238D-01-0	168D+02	0.153D+00	0.207D+02	0.478D+01	0.688D+02	
LF			0.313D+02	0.423D+04			
DF			-0.745D+00	-0.101D+03			
NF			0.767D+02	0.104D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.178D-05-0	240D-03-0	0.196D-03-0	0.465D-04	0.428D-02	
CYR	0.120D-05	0.162D-03	0.116D-03-0	0.117D-04	0.317D-02	
B1F	0.107D-03	0.145D-01-0	0.679D-01-0	0.124D-01	0.102D+01	
B1R	-0.110D-03-0	0.149D-01	0.729D-01-0	0.199D-03	0.103D+01	
YF	-0.570D+02-0	0.771D+04				
LF	-0.385D+02-0	0.520D+04				
NF	-0.644D+02-0	0.871D+04				
CTF				-0.192D-03		
CTR				-0.952D-04		

FORCE = 0.241446D+07

CASE 4

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	BICF	BICR	OMEGAF	OMEGAR
X Z H Y L N	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0
CTF CTR CHF CHR AIF AIR VFR VRR QF QR	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
QFU QFV QFW	0.0 0.0 0.0	0.0 0.0 0.0	QFDLB QFDLS QFDLR	QFDLTAC QFBETA QFALPHA
-0.279D-02 -0.205D-03 -0.385D-01	-0.244D+00 0.331D+01 -0.338D+00	0.375D+00 -0.160D-01 -0.152D-01	0.768D+00 -0.277D-01 -0.520D+01	
QRU QRV QRW	0.0 0.0 0.0	0.0 0.0 0.0	QRDELB QRDELS QRDELR	QRDELTAC QRBETA QRALPHA
-0.218D-02 0.521D-04 0.151D-02	0.136D+00 0.226D+01 0.293D+00	-0.437D+00 0.565D-02 -0.964D-02	0.876D+00 0.705D-02 0.204D+00	

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
1.000000D+02 4.400000D+01	9.174792D-01	-9.2000951D-01	9.592383D-01	1.043168D+03 1.021937D+04
VTF VTR	CGF CGL 3.809953D+01 0.0	BETAF PHI 0.0	PSI GAMMA -5.791454D-03 0.0	XR LW LR LW 9.575784D+02 7.124969D+03
7.050000D+02 7.050000D+02	-3.725719D-01			
THEOF THEOR	AICF AICR -7.569536D-01 -7.401281D-01	B1TF B1TR 1.600000D+00 1.600000D+00	B1CF B1CR 1.600000D+00 1.600000D+00	DFW LFFW 1.497656D+03 1.077043D+02
1.482666D+01 1.394875D+01				
THETAC	DELTAB -1.644879D+00	DELTA S 1.110037D-03	DELTA R -3.050084D-01	DEL TAC 5.726881D+00
1.438763D+01				
TF TR	HF HR 4.935879D+02 2.827551D+02	YF YR -7.042201D+01 -6.131239D+01	MHF MHR 1.499530D+03 1.002000D+03	LHF LHR 2.940193D+02 4.452496D+01
1.026061D+04 7.183466D+03				
QF QR	LFZ DFX 1.316715D+02 1.495740D+03	YFY MF 1.262133D+02 -4.220024D+03	LF NF 3.748623D+02 1.507363D+02	RHPF RHPR 6.897131D+02 5.859695D+02
1.372089D+06 1.165705D+04				
XR	L/DE 5.918734D+00	SHPTOT 1.375683D+03	WFF 1.376683D+03	NMLB 7.263838D-02
1.523170D+03				
SIGOF SIGOR	CTSF CTSR 7.309889D-02 5.0933316D-02	CPSF CPSR 3.814749D-03 3.240951D-03	AMTF AMTR 7.805413D-01 7.815045D-01	LAMDAF LAMDAR -4.563124D-02 -4.846917D-02
5.841923D-02 5.841923D-02				
MUF MUR	VF VR 6.965305D+00 4.8333829D+00	DFFR DFRF 1.642539D+00 2.719573D-41	DFF DFF 9.161167D-01	AOF AOR 3.844913D+00 2.607182D+00
2.368833D-01 2.382173D-01				
ALF AIR	B1F B1R 6.773914D-01 7.229318D-02	BETA OF BETA OR 1.125692D+00 7.588333D-01	B180F B180R 6.018618D+00 4.035990D+00	A270F A270R 7.759010D+00 5.610122D+00
2.435452D+00 1.622120D+00				
CAPVF CAPVR	ALPHAF ALPHAR -8.582521D+00 -9.908655D+00	BETAW BETAR 3.600000D+02 3.600000D+02	ATIPF ATIPR -6.147069D+00 -4.455401D+00	BPTPF BPTPR 2.481799D+00 1.628725D+00
1.688940D+02 1.7048863D+02				

PAGE 4

CASE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
4.792631D-01		CTFP	A90F	
4.797714D-01		CTR _P	A90RA	
		7.245160D-02	8.397314D-01	
		5.051343D-02	4.603497D-01	

3

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.136176D+01		7.210748D+02	1.428910D+03	6.993448D-02
2.186549D+01		6.078350D+02	1.429910D+03	1.223853D+03
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V	RC	GW	RHO	XF LW
FE 1.20000D+02 4.40000D+01	ALPHA 0.0 -8.202620D-01	ALFF 1.75000D+04 -2.119458D+00	THETA 2.378000D-03 -7.491455D-01	LF LW 1.362026D+03 1.042229D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -5.315157D-01	PSI GAMMA 7.186156D-03 0.0	XR LW LR LW 1.156934D+03 7.044546D+03
THEOF THEOR 1.628127D+01 1.543417D+01	A1CF A1CR -1.106976D+00 -1.0666799D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 2.160043D+03 -1.273596D+01
THETAC 1.585772D+01	DELTAB -2.013223D+00	DELTA S -4.560567D-03	DELTAR -4.749086D-01	DELTAC 6.866453D+00
TF TR 1.049768D+04 7.137715D+03	HF HR 5.271638D+02 1.309856D+02	YF YR -1.078741D+02 -8.387011D+01	MHF MHR 1.550207D+03 1.855962D+02	LHF LHR 2.307513D+02 -4.777795D+02
QF QR 1.763298D+04 1.454902D+04	LFZ DFX -4.365736D+01 2.159639D+03	YFY MF 1.953469D+02 -6.652002D+03	LF NF 6.152081D+02 1.192976D+02	RHPF RHPR 8.863637D+02 7.313413D+02
XR 2.203458D+03	L/DE 7.119796D+00	SHPTOT 1.717705D+03	WFF 1.718705D+03	NMLB 6.982001D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CITSF CTSR 7.452819D-02 5.077206D-02	CPSF CPSR 4.902407D-03 4.044991D-03	AMTF AMTR 8.096709D-01 8.101249D-01	LAMDAF LAMDAR -5.992881D-02 -5.786045D-02
MUF MUR 2.828282D-01 2.848055D-01	VF VR 5.940928D+00 4.020465D+00	DFFR DFRF 1.547617D+00 9.470078D-12	DFF DFF 9.232462D-01	AOF AOR 4.003679D+00 2.671497D+00
AIF AIR 2.517812D+00 3.013456D-01	B1F B1R 3.746631D-01 -7.757492D-02	BETAOF BETAOR 9.601776D-01 1.969303D+00	B180F B180R 6.065906D+00 2.628331D+00	A270F A270R 9.295299D+00 6.763493D+00
CAPVF CAPVR 2.026728D+02 2.041272D+02	ALPHAF ALPHAR -1.032026D+01 -1.037782D+01	BETAFW BETARW 5.919537D-19 5.878440D-19	ATIPF ATIPR 3.521975D+02 3.524811D+02	BTPPF BTPPR 2.545535D+00 3.111705D-01

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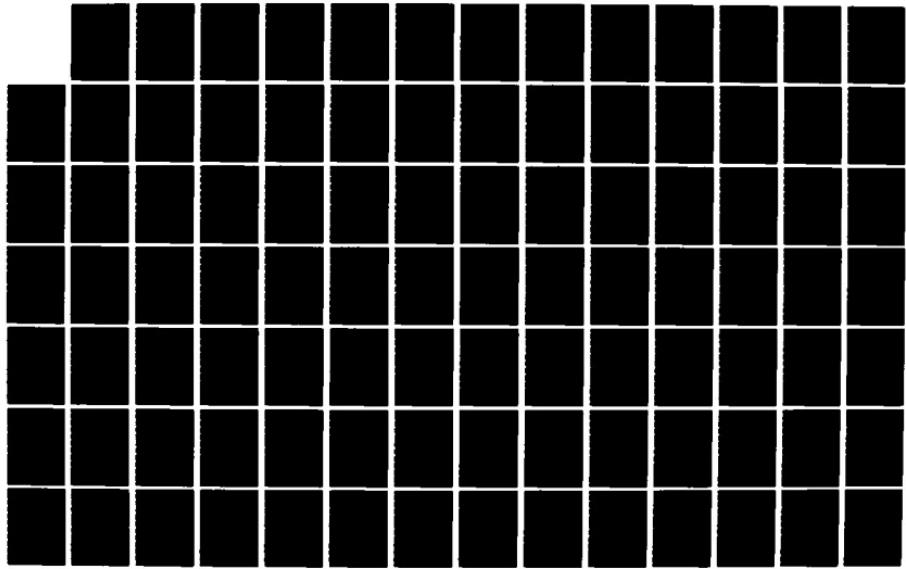
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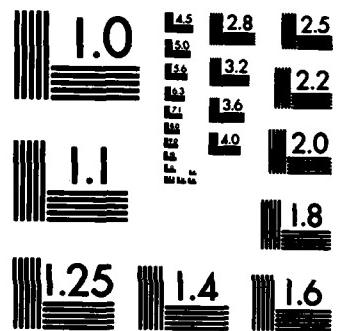
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UNCLASSIFIED

F/G 1/2

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

CASE 5

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
4.501878D-01	7.389022D-02	6.346258D-01	
4.514089D-01	4.994326D-02	3.350206D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHP TOT	NMLB
DELHPR	RHPR	WF	RP
5.227055D+01	9.386342D+02	1.805306D+03	6.663393D-02
3.5333028D+01	7.6666716D+02	1.806306D+03	1.162594D+03

STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	NBETA
XW	XR	XDELR	XALPHA
-5.931663D-02	-2.325311D-01	-1.110331D-01	7.745879D-01
-1.387739D-03	1.549155D+00	-5.807649D-02	-2.812908D-01
8.411453D-02	-4.999175D-02	-3.469245D-02	1.704973D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
4.886873D-02	-1.017726D+00	6.942976D-01	-1.033364D+01
7.777428D-03	-5.308903D+00	5.168368D-02	1.576456D+00
-9.652077D-01	-3.523414D-01	9.774665D-02	-1.956443D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	NBETA
MW	MR	MDELR	MALPHA
-1.943347D-03	2.422828D-01	5.311457D-01	-2.158118D-02
2.220609D-03	-1.446860D+00	-1.090515D-02	4.501099D-01
-3.457224D-03	-3.028976D-01	5.294720D-04	-7.007675D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
4.1266447D-03	-7.613066D-01	-4.042463D-02	-1.502104D-02
-1.717711D-01	-1.347778D-01	8.911759D-01	-3.481741D+01
-8.215730D-03	-8.529003D-02	2.708490D-01	-1.665301D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
7.167791D-04	-4.510087D-01	-3.277533D-02	-1.506062D-02
-1.023471D-02	7.179055D-03	3.4003379D-01	-2.074540D+00
5.735090D-04	3.957699D-03	-4.814764D-02	1.162483D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.933415D-05	-6.050250D-02	4.323725D-02	7.372167D-05
-1.231372D-03	-1.156623D-01	1.125448D-02	-2.495950D-01
-1.509819D-03	-6.484705D-02	1.176509D-01	-3.060352D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.187D-04-0	0.752D-02	0.108D-03	0.219D-01-0	0.120D-02	0.587D-01
CTR	-0.231D-05-0	0.163D-02	0.896D-04	0.182D-01	0.246D-02	0.462D-01
CHF	0.138D-05-0	0.971D-03	0.830D-05	0.168D-02-0	0.249D-03	0.551D-02
CHR	0.118D-05-0	0.831D-03	0.207D-05	0.429D-03-0	0.254D-05	0.212D-02
AIF	0.350D-03-0	0.247D+00	0.101D-02	0.265D+00-0	0.655D-01	0.897D+00
AIR	0.334D-03-0	0.236D+00	0.824D-03	0.167D+00-0	0.545D-01	0.782D+00
VFR	-0.437D-01-0	0.308D+02	0.148D+00	0.301D+02-0	0.170D+01	0.798D+02
VRR	-0.223D-01-0	0.157D+02	0.122D+00	0.247D+02	0.341D+01	0.621D+02
LF			0.488D+02	0.990D+04		
DF			-0.103D+01-0	-0.208D+03		
MF			0.116D+03	0.235D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.225D-05-0	0.455D-03-0	0.129D-03-0	0.440D-04	0.454D-02
CYR	0.138D-05-0	0.279D-03	0.423D-04-0	0.248D-04	0.311D-02
BIF	-0.261D-03-0	0.489D-01-0	0.648D-01-0	0.148D-01	0.103D+01
BIR	0.344D-03-0	0.698D-01	0.688D-01	0.246D-02	0.103D+01
YF	-0.847D+02-0	0.172D+05			
LF	-0.639D+02-0	0.129D+05			
NF	-0.116D+03-0	0.235D+05			
CTF			-0.352D-03		
CTR			-0.194D-03		

FORCE = 0.241446D+07

CASE 5

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.40000D+02	0.0	1.75000D+04	2.378000D-03	1.832983D+03
4.40000D+01	-4.654071D+00	-5.685397D+00	-4.6333928D+00	1.083607D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	7.744074D-02	1.398740D+03
7.05000D+02	0.0	-9.739055D-01	0.0	7.418053D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LF FW
1.843516D+01	-1.626318D+00	2.800000D+00	2.800000D+00	3.003843D+03
1.731866D+01	-1.665459D+00	4.000000D+00	4.000000D+00	-7.949971D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.787691D+01	-2.131067D+00	2.546934D-02	-6.963381D-01	8.431714D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.0955533D+04	8.724102D+02	-1.958261D+02	2.666822D+03	1.221057D+02
7.540761D+03	3.477252D+02	-1.508957D+02	1.125288D+03	-2.695063D+02
QF	LFZ	YFY	LF	RHPPF
QR	DFX	MF	NF	RHPR
2.487235D+04	-1.036106D+03	3.473176D+02	9.796502D+02	1.250268D+03
1.883677D+04	-2.929433D+03	-1.105815D+04	-2.593265D+02	9.463749D+02
XR	L/DE	SHP10T	WFF	NMLB
3.015677D+03	7.518445D+00	2.297143D+03	2.298143D+03	6.091876D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	ANTR	LANDAR
5.841923D-02	7.762523D-02	6.915132D-03	8.391549D-01	-8.956195D-02
5.841923D-02	5.3333631D-02	5.237090D-03	8.390249D-01	-8.292821D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AR
3.252104D-01	5.321604D+00	1.326201D+00	9.541740D-01	4.286222D+00
3.2847832D-01	3.643105D+00	1.530955D-38		2.892154D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
4.334131D+00	1.982579D-01	-7.287466D-01	8.052114D+00	1.174656D+01
1.827388D+00	-4.375895D-01	5.386475D-01	4.285781D+00	8.6662170D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.364516D+02	-1.415407D+01	9.609768D-18	3.501801D+02	4.338663D+00
2.379776D+02	-1.3331845D+01	9.514165D-18	3.501733D+02	1.879051D+00

CASE 5

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTF	0.0	0.0	0.0	0.0
4.231903D-01		CTFP	A90F	
4.238869D-01		CTR P	A90RA	
		7.6823886D-02	5.233886D-01	
		5.259129D-02	2.666361D-01	

NON UNIFORM DOMINANT POWER CORRECTIONS

	DELHFF	RHPF	SHPTOT	MULB
	DELHPR	RHPR	WFF	RP
7.584201D+01	1.326110D+03	2.124904D+03	5.771045D-02	
5.191916D+01	9.987941D+02	2.425904D+03	1.009933D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 6

PAGE 3

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+06	RHO THETA 2.378000D-03	XF LW LF LW
1.460000D+02 4.400000D+01	-5.953024D+00	-6.933801D+00	-5.920690D+00	2.017279D+03 1.105254D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -1.092902D+00	PSI GAMMA 1.118625D-01 0.0	XR LW LR LW 1.510558D+03 7.596817D+03
THEOF THEOR 1.925630D+01 1.805591D+01	AICF AICR -1.828829D+00 -1.964676D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.311022D+03 -1.191079D+03
THETAC 1.865611D+01	DELTAB -2.159320D+00	DELIAS 3.746481D-02	DELTAR -7.608761D-01	DELTAC 9.035743D+00
TF TR 1.119048D+04 7.733495D+03	NF HR 1.000576D+03 4.318172D+02	YF YR -2.411354D+02 -1.876287D+02	MHF MHR 3.085795D+03 1.479720D+03	LHF LHR 1.209745D+02 -3.158117D+02
QF QR 2.8355211D+04 2.067011D+04	LFZ DFX -1.528051D+03 -3.169636D+03	YFY MF 3.898269D+02 -1.275567D+04	LF NF 1.123176D+03 -5.442835D+02	RHFF RHPR 1.425186D+03 1.039032D+03
XR 3.329929D+03	L'DE 7.323792D+00	SHPIOT 2.564218D+03	WFF 2.565218D+03	NMLB 5.691524D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.954685D-02 5.461517D-02	CPSF CPSR 7.882591D-03 5.746805D-03	AMTF AMTR 8.480004D-01 8.476124D-01	LAMDAF LAMDAR 1.005951D-01 -9.287115D-02
MUF MUR 3.371220D-01 3.408662D-01	VF VR 5.217305D+00 3.585140D+00	DFFR DFRF 1.268166D+00 1.521019D-38	DFF 8.4660697D-01 8.476124D-01	A0F A0R 4.44286D+00 2.997098D+00
A1F AIR 5.016673D+00 2.403260D+00	B1F BIR 1.964213D-01 -5.127761D-01	BETAOF BETAOR -1.339790D+00 -3.699741D-03	B180F B180R 8.825733D+00 4.914570D+00	A270F A270R 1.265237D+01 9.343144D+00
CAPVF CAPVR 2.465852D+02 2.481521D+02	ALPHAF ALPHAR -1.445302D+01 -1.444198D+01	BETAFW BETARW 6.445013D-18 6.374218D-18	ATIPF ATIPR 3.495636D+02 3.494502D+02	BPTPF BPTPR 5.020516D+00 2.457356D+00

CASE 6

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
	0.0	0.0	0.0	
	0.0	0.0	0.0	
RMTF		CTFP	A90F	
RMTR		CTR P	A90RA	
4.154477D-01		7.835845D-02	5.153429D-01	
4.159585D-01		5.385866D-02	2.664991D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
8.3225194D+01	1.508438D+03	2.704692D+03	5.396031D-02	
5.722214D+01	1.096254D+03	2.705692D+03	9.443055D+02	

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STABILITY DERIVATIVES OUTPUT

MASS	I _{XX}	I _{YY}	I _{ZZ}
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDEL _B	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDEL _R	XALPHA
-6.706691D-02	-3.495084D-01	-1.749075D-02	4.351453D-01
-8.952552D-04	-3.302035D-01	-5.966683D-03	-2.196091D-01
6.051945D-02	-7.576874D-02	-2.484753D-02	1.484563D+01
ZU	ZP	ZDEL _B	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDEL _R	ZALPHA
4.305857D-02	-2.233441D-01	5.543540D-01	-1.151418D+01
1.546354D-02	-5.864163D+00	2.592633D-02	3.793259D+00
-1.050929D+00	-4.364420D-01	1.707113D-01	-2.577963D+02
MU	MP	MDEL _B	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDEL _R	MALPHA
-1.162495D-03	3.644417D-01	5.644523D-01	-5.002461D-02
3.99184D-03	-1.391333D+00	-1.205417D-02	9.790510D-01
-4.918649D-03	-3.861715D-01	7.023573D-04	-1.206561D+00
YU	YP	YDEL _B	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDEL _R	YALPHA
4.568529D-03	-3.927256D-02	-1.653901D-01	-3.610083D-02
-2.188591D-01	4.040247D-01	9.846544D-01	-5.368688D+01
-1.437483D-02	8.453579D-02	2.794815D-01	-3.526194D+00
LU	LP	LDEL _B	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDEL _R	LALPHA
3.894093D-04	-2.505006D-01	-1.004962D-01	-3.309894D-02
-1.557186D-02	2.649160D-01	3.708524D-01	-3.819830D+00
-3.707670D-03	9.601626D-02	-5.679063D-02	-9.095040D-01
NU	NP	NDEL _B	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDEL _R	NALPHA
7.050107D-05	-6.248519D-02	8.038743D-02	2.295421D-03
8.165848D-04	-2.365908D-01	1.270266D-02	2.003110D-01
-2.436090D-05	-1.014318D-01	1.286038D-01	-5.970905D-03

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.737D-05-0.	528D-02	0.111D-03	0.271D-01-0.	114D-02	0.625D-01
CIR	-0.232D-05-0.	164D-02	0.976D-04	0.240D-01	0.263D-02	0.541D-01
CHF	0.149D-05	0.105D-02	0.104D-04	0.254D-02-0.	955D-04	0.826D-02
CHR	0.149D-05	0.985D-03	0.606D-05	0.149D-02	0.138D-03	0.446D-02
AIF	0.439D-	5.318D+00	0.125D-02	0.397D+00-0.	880D-01	0.112D+01
AIR	3.398	-3.0.275D+00	0.109D-02	0.266D+00-0.	507D-01	0.103D+01
VFR	-0.292	-1.-3.206D+02	0.126D+00	0.309D+02-0.	136D+01	0.698D+02
VRR	-0.169D-01-0.	119D+02	0.111D+06	0.271D+02	0.283D+01	0.599D+02
LF			0.683D+02	0.167D+05		
DF			0.723D+00	0.177D+03		
NF			0.127D+03	0.313D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.292D-05-0.	716D-03-0.	228D-04-0.	258D-04	0.489D-02
CYR	0.180D-05	0.442D-03-0.	139D-04-0.	448D-04	0.341D-02
B1F	-0.189D-03-0.	464D-01-0.	630D-01-0.	141D-01	0.104D+01
B1R	0.275D-03	0.674D-01	0.665D-01-0.	544D-03	0.164D+01
YF	-0.108D+03-0.	264D+05			
LF	-0.116D+03-0.	286D+05			
NF	0.884D+02	0.217D+05			
CTF			-0.545D-03		
CTR			-0.383D-03		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X Z H Y - L N	CTF	0.0	0.0	0.0
	CTR	0.0	0.0	0.0
	CHF	0.0	0.0	0.0
	CHR	0.0	0.0	0.0
	AIF	0.0	0.0	0.0
	AIR	0.0	0.0	0.0
	VFR	0.0	0.0	0.0
	VRR	0.0	0.0	0.0
	QF	0.0	0.0	0.0
	QR	0.0	0.0	0.0
	QFU	QFP	QFDELB	QFDELAC
	QFY	QFQ	QFDELS	QFBETA
	QFW	QFR	QFDELR	QFALPHA
	-0.588D-02	-0.969D+00	0.152D+01	0.268D+01
	0.447D-02	-0.170D+00	-0.188D-01	0.110D+01
	0.122D+00	-0.137D+01	-0.116D-01	0.299D+02
	QRU	QRP	QRDELB	QRDELAC
	QRV	QRQ	QRDELS	QRBETA
	QRW	QRR	QRDELR	QRALPHA
	-0.535D-02	0.440D+00	-0.113D+01	0.199D+01
	-0.321D-02	0.350D+01	0.210D-01	-0.787D+00
	0.733D-01	0.103D+01	-0.302D-01	0.180D+02

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
14000 ft	0 kt	0 ft/min	0 deg	X
	20			
	40			X
	60			
	80			X
	100			
	112			X

CASE 7

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V FE 4.400000D+01	RC ALPHA 0.0 0.0	GW ALFF 1.750000D+04 2.700000D+02	RH0 THETA 1.546598D-03 5.978491D+00	XF LW LF LW 1.044057D+04 4.726553D+02
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -1.630840D-01	PSI GAMMA 0.0 0.0	XR LW LR LW 7.703515D+03 3.470556D+02
THE0F THEOR 1.833513D+01 1.632322D+01	A1CF A1CR -9.948705D-01 -1.750437D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFFW -3.003109D-14 -6.560519D+02
THETAC 1.732917D+01	DELIAB 1.574258D+00	DELTA S 2.601887D-01	DELTA R -5.957935D-01	DELIAC 8.007112D+00
TF TR 7.703515D+03	HF HR 4.726553D+02 3.470556D+02	YF YR -2.000039D+02 -2.517189D+02	MHF MHR 1.5913569D+03 1.5588821D+03	LHF LHR -7.065319D+02 -1.208159D+03
QF QR 2.234690D+04 1.461676D+04	LFZ DFX -6.560519D+02 -3.003109D-14	YFY MF -1.4666693D-14 2.624208D+03	LF NF -7.421628D-14 4.821513D-13	RHPF RHPR 1.123320D+03 7.347461D+02
XR 1.851371D+03	L/DE 0.0	SHPTOT 1.958066D+03	WFF 1.959066D+03	NMLB 0.0
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 1.138682D-01 8.428222D-02	CPSF CPSR 9.552906D-03 6.248406D-03	AMTF AMTR 6.644327D-01 6.643114D-01	LAMDAF LAMDAR -6.230914D-02 -5.679239D-02
MUF MUR 4.396267D-19 1.4666755D-18	VF VR 4.215070D+01 3.410906D+01	DFFR DFFR 1.406733D-01 5.209670D-02	DFF DFF 1.299000D+00	A0F A0R 4.144557D+00 3.009715D+00
A1F AIR 2.584678D+00 2.531811D+00	B1F B1R -1.147241D+00 -1.962016D+00	BETA0F BETA0R 1.530703D+00 4.586972D-01	B180F B180R 6.726112D+00 5.538137D+00	A270F A270R 6.285356D+00 4.544285D+00
CAPVF CAPVR 1.777228D+00 5.929480D+00	ALPHAF ALPHAR 2.700000D+02 2.700000D+02	BETAFW BETARW 0.0 0.0	ATIPF ATIPR -6.915322D+00 -4.4668189D+00	BPTPF BPTPR 2.827847D+00 3.203057D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
6.626567D-01	CTFP	A90F		
6.633885D-01	CTR P	A90RA		
	5.1523322D-03	6.215567D+00		
	3.783184D-03	4.578545D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHP10T	NHLD
	DELHPR	RHPR	WFF	RP
0.0	1.123320D+03	1.958066D+03	0.0	0.0
0.0	7.347461D+02	1.959066D+03		

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.472950D-02	-4.448357D+00	6.367016D-02	5.623069D-01
-2.799194D-04	1.416151D+00	-9.466269D-03	-8.910110D-04
1.127251D-01	-1.473997D-01	-5.304502D-02	3.588152D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
5.988321D-03	4.689357D+01	-2.775982D-02	-5.411486D+00
2.993460D-03	-9.719121D-02	-2.683842D-03	9.528478D-03
-1.324068D+00	9.820924D-02	1.324987D-02	-4.214640D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.172349D-05	4.881207D+00	2.250938D-01	-5.820496D-02
-1.235899D-03	-4.566791D-01	3.546249D-04	3.933989D-03
-1.099517D-01	-2.231115D-01	5.060486D-03	-3.499872D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.621989D-04	-2.710785D+00	-8.259853D-02	3.254067D-02
-2.851656D-01	-1.2311713D-01	9.280419D-01	-9.077103D-01
4.259517D-02	-5.997824D-02	2.418509D-01	1.3555846D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
8.299962D-05	-1.532137D+00	-7.122089D-02	-4.088837D-03
6.634380D-04	1.125251D-01	3.570012D-01	2.111789D-03
2.263458D-02	2.428727D-02	-4.968480D-02	7.204812D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
9.152291D-05	3.456249D-01	4.686454D-02	-2.096377D-03
5.089501D-03	-1.550130D-01	1.095944D-02	1.620038D-02
-1.272249D-02	-8.279679D-02	1.200475D-01	-4.049693D-02

LONGITUDINAL	U	MU	W	ALPHA	Q	THETAC
CTF	-0.369D-05-0.	261D-02	0.	377D-04	0.120D-03-0.	660D-03
CTR	-0.123D-05-0.	866D-03	0.	444D-03	0.141D-02	797D-03
CHF	0.437D-05	0.398D-02	0.	232D-05	0.737D-05-0.	337D-03
CHR	0.263D-05	0.186D-02	0.	192D-04	0.611D-04-0.	171D-03
AIF	0.889D-02	0.627D+01	0.	889D-02	0.283D-01-0.	112D+00
AIR	0.877D-02	0.618D+01	0.	883D-02	0.281D-01-0.	112D+00
VFR	-0.897D-01-0.	633D+02	0.	520D+00	0.165D+01-0.	876D+01
VRR	-0.542D-01-0.	382D+02	0.	345D+01	0.110D+02	115D+02
LF			-0.	352D+02-0.	112D+03	
DF			-0.	161D-14-0.	513D-14	
HF			0.	141D+03	0.448D+03	

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.454D-05-0.	145D-04-0.	317D-03-0.	764D-04	0.695D-02	
CYR	0.266D-05	0.848D-05	0.622D-03-0.	557D-04	0.498D-02	
BIF	0.889D-02	0.283D-01-0.	169D+00-0.	213D-01	0.103D+01	
BIR	-0.877D-02-0.	279D-01	0.110D+00-0.	155D-02	0.950D+00	
YF	-0.144D+03-0.	458D+03				
LF	0.129D+03	0.412D+03				
NF	0.575D+03	0.183D+04				
CTF						
CTR						

FORCE = 0.157031D+07

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	X Z H Y L N	BICF	BIKR	OMEGAF	OMEGAR
CTF	0.0	0.0	0.0	0.0	0.0
CTR	0.0	0.0	0.0	0.0	0.0
CHF	0.0	0.0	0.0	0.0	0.0
CHR	0.0	0.0	0.0	0.0	0.0
AIF	0.0	0.0	0.0	0.0	0.0
AIR	0.0	0.0	0.0	0.0	0.0
VFR	0.0	0.0	0.0	0.0	0.0
VRR	0.0	0.0	0.0	0.0	0.0
QF	0.0	0.0	0.0	0.0	0.0
QR	0.0	0.0	0.0	0.0	0.0
QFU	-0.378D-03	-0.463D+00	0.816D+00	0.163D+01	
QFY	0.596D-03	0.111D+01	-0.520D-03	0.190D-02	
QFW	0.766D-02	-0.986D+00	-0.131D-05	0.244D-01	
QRP	0.754D-04	-0.869D+01	-0.630D+00	0.124D+01	
QRQ	-0.100D-02	0.142D+01	0.133D-02	-0.319D-02	
QRW	0.278D+00	0.659D+00	0.389D-02	0.886D+00	
QRDEL A					
QRDEL S					
QRDEL R					
QRDEL TAC					
QRDEL B					
QRDEL S					
QRDEL R					
QRDEL TAC					
QRDEL B					
QRDEL S					
QRDEL R					

CASE 6

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Y FE 2.00000D+01 4.40000D+01	RC ALPHA 0.0 4.4886761D+00	GW ALFF 1.750000D+04 -4.697131D+01	RHO THETA 1.546598D-03 4.536026D+00	XF LW LF LW 2.146112D+02 1.023612D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -2.099430D-01	PSI GAMMA -1.582679D-02 0.0	XR LW LR LW 4.300369D+03 6.318543D+03
THEOF THEOR 1.730240D+01 1.708578D+01	A1CF A1CR -4.529957D-02 -5.663333D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 1.768759D+01 -3.753229D+02
THETAC 1.719409D+01	DELTAB 1.695020D-01	DELTA S 1.684944D-01	DEL TAR -1.374576D-01	DELTAC 7.902394D+00
TF TR 1.021547D+04 7.626853D+03	HF HR 6.843442D+02 4.982682D+02	YF YR -1.787078D+01 -7.626630D+01	MHF MHR 2.327238D+03 2.257418D+03	LHF LHR -2.443511D-01 -3.4595559D+02
QF QR 1.8444546D+04 1.6500268D+04	LFZ DFX -3.727890D+02 4.699443D+01	YFY MF 7.860053D+00 1.030755D+01	LF HF 3.428693D+01 -1.804122D+02	RHPF RHPR 9.272046D+02 8.2954666D+02
XR 4.761265D+01	L/DE 5.797628D-01	SHP10T 1.856751D+03	WFF 1.857751D+03	NMLB 1.076570D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS R 1.110254D-01 8.325835D-02	CPSF CP SR 7.885108D-03 7.054606D-03	AMTF AMTR 6.979594D-01 6.994167D-01	LAMDAF LANDAR -5.450205D-02 -6.957553D-02
MUF MUR 4.772990D-02 4.786710D-02	VF VR 3.545300D+01 2.268921D+01	DFFR DFRF 7.012770D-01 5.318232D-04	DFF 1.331857D+00	A0F A0R 4.022036D+00 3.036958D+00
A1F AIR 3.781375D+00 3.667772D+00	B1F B1R -3.967418D-04 -5.617219D-01	BETA OF BETA OR 2.376166D-01 -6.719144D-01	B180F B180R 7.794157D+00 6.691341D+00	A270F A270R 6.954095D+00 5.682587D+00
CAPVF CAPVR 3.377986D+01 4.281118D+01	ALPHAF ALPHAR -5.033663D+00 -3.797687D+01	BETA FN BETA RM 3.600000D+02 3.600000D+02	ATIPF ATIPR -1.231864D+00 1.154534D+00	BPTPF BPTPR 3.781375D+00 3.710537D+00

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CASE 6

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
6.301922D-01	1.115819D-01	4.815442D+00	
6.310799D-01	6.887718D-02	3.881535D+00	

NON UNIFORM DOWNMASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	MMLB
DELHPR	RHPR	WFF	RP
0.0	9.272048D+02	1.856751D+03	1.076570D-02
0.0	8.295466D+02	1.857751D+03	1.883998D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 8

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V	RC	GW	RH0	XF LW
FE	ALPHA	ALFF	THETA	LF LW
4.00000D+01	0.0	1.75000D+04	1.546598D-03	2.974025D+02
4.40000D+01	2.961130D+00	-1.584032D+01	3.032177D+00	1.007274D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	-1.190978D-02	3.214079D+03
7.05000D+02	0.0	-2.368263D-01	0.0	6.977463D+03
THE0F	AICF	B1TF	B1CF	DFW
THE0R	AICR	B1TR	B1CR	LFFW
1.615685D+01	7.189193D-01	-2.500000D+00	-2.500000D+00	1.382954D+02
1.739939D+01	4.611303D-01	-2.500000D+00	-2.500000D+00	-2.519098D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.677772D+01	-1.082421D+00	1.030691D-01	2.169393D-01	7.579629D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.004109D+04	8.515883D+02	1.321582D+02	2.969526D+03	6.414745D+02
7.654031D+03	6.565398D+02	7.740043D+01	2.962701D+03	3.791215D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.386194D+04	-2.444293D+02	1.939460D+01	6.523215D+01	6.968033D+02
1.702779D+04	1.511240D+02	-8.772140D+02	-1.698363D+02	8.559425D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.815913D+02	1.318392D+00	1.652746D+03	1.653746D+03	2.418751D-02
SIG0F	CTSF	CPSF	AMTF	LAMDAF
SIG0R	CTSR	CPRF	AMTR	LAMDAR
5.841923D-02	1.090683D-01	5.925735D-03	7.306791D-01	-4.491495D-02
5.841923D-02	8.349607D-02	7.279082D-03	7.338411D-01	-7.666511D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
9.520302D-02	2.396338D+01	1.401270D+00	1.141296D+00	3.879491D+00
9.5588840D-02	1.569777D+01	2.712666D-41		3.060119D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
4.827195D+00	1.041590D+00	-9.762450D-01	8.666413D+00	7.596655D+00
4.816074D+00	6.155743D-01	-1.828565D+00	7.831211D+00	6.793183D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPR
6.755760D+01	-6.538870D+00	3.600000D+02	-1.711675D+00	4.938291D+00
7.753160D+01	-2.963515D+01	3.600000D+02	7.772038D-01	4.855255D+00

CASE 8

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _R	A90RA	
5.983700D-01	1.098010D-01	3.513697D+00	
5.986588D-01	7.605994D-02	3.142768D+00	

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NON UNIFORM DOMINANT POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	MMLB
DELHPR	RHPR	WFF	RP
2.563600D+00	6.993669D+02	1.657085D+03	2.412421D-02
1.775824D+00	8.577184D+02	1.658085D+03	4.221737D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.196702D-02	5.666665D-02	5.49842D-02	1.428694D-01
-3.406493D-03	1.537907D+00	-9.750585D-03	-2.302325D-01
2.221316D-02	-1.001304D-01	-3.685055D-02	1.501306D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.261063D-01	-6.456551D+00	4.772251D-01	-5.095055D+00
1.212649D-02	-2.613936D+00	2.209083D-03	8.195856D-01
-5.688152D-01	-3.321508D-01	2.256843D-02	-3.844415D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-2.610519D-03	-5.320596D-01	2.723391D-01	1.3339054D-03
-1.175707D-04	-8.129866D-01	-1.572210D-03	-7.946176D-03
-1.111139D-02	-2.4666585D-01	1.616964D-03	-7.509785D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.183960D-03	-1.633898D+00	3.832419D-02	1.794587D-02
-6.373567D-02	-2.510107D-01	8.978150D-01	-4.307662D+00
7.6667074D-04	-1.965890D-01	1.781466D-01	5.181896D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
4.431390D-04	-9.003141D-01	-2.920497D-02	-9.377901D-03
-1.0811990D-02	3.245473D-02	3.521670D-01	-7.312774D-01
1.2611973D-03	-2.018792D-02	-7.371933D-02	8.529219D-02
MU	NP	NDELB	NDELTAC
MV	NQ	NDELS	NBETA
MW	NR	NDELR	NALPHA
-2.400793D-04	-5.057053D-02	4.161563D-02	1.952331D-03
7.485822D-04	-1.393356D-01	8.405306D-03	5.059395D-02
-1.173156D-03	-6.5339259D-02	1.180599D-01	-7.928936D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.163D-04	0.115D-01	0.833D-04	0.563D-02	-0.942D-03	0.450D-01
CTR	0.255D-04	0.180D-01	0.106D-03	0.717D-02	0.194D-02	0.345D-01
CHF	0.530D-05	0.376D-02	0.915D-05	0.618D-03	-0.488D-03	0.546D-02
CHR	0.529D-05	0.373D-02	0.990D-05	0.669D-03	0.302D-04	0.408D-02
A1F	0.608D-03	0.429D+00	0.320D-03	0.216D-01	-0.111D+00	0.277D+00
AIR	0.624D-03	0.440D+00	0.362D-03	0.244D-01	-0.106D+00	0.256D+00
VFR	-0.217D+00	-0.153D+03	0.352D+00	0.238D+02	-0.472D+01	0.149D+03
VRR	-0.439D-01	-0.309D+02	0.406D+00	0.275D+02	-0.782D+01	0.839D+02
LF			0.108D+02	0.731D+03		
DF			0.208D+00	0.141D+02		
MF			0.117D+02	0.793D+03		

LATERAL-DIRECTIONAL

	V	BETA	P	R	A1C
CYF	-0.440D-05	-0.297D-03	0.386D-03	-0.973D-04	0.657D-02
CYR	0.284D-05	0.192D-03	0.181D-03	-0.292D-04	0.512D-02
B1F	0.482D-03	0.326D-01	0.107D+00	-0.175D-01	0.103D+01
B1R	-0.676D-03	-0.457D-01	0.115D+00	-0.223D-02	0.104D+01
YF	-0.233D+02	-0.157D+04			
LF	-0.371D+02	-0.251D+04			
NF	0.104D+03	0.704D+04			
CTF			-0.161D-03		
CTR			-0.692D-04		

FORCE = 0.157031D+07

	X	Z	H	Y	L	N	BICF	BICR	OMEGA F	OMEGA R
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CTF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CTR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CHR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AIF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AIR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VFR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
VRR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QFU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QFY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QFW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-0.670D-02				0.295D+00			0.607D+00		0.123D+01	
-0.404D-03				0.352D+01			-0.108D-01		-0.273D-01	
-0.928D-02				-0.554D+00			-0.166D-01		-0.627D+00	
QRU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QRV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
QRW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.677D-02				0.547D+00			-0.746D+00		0.131D+01	
-0.451D-03				0.364D+01			0.589D-02		-0.305D-01	
0.432D-01				0.623D+00			-0.948D-02		0.292D+01	

CASE 7

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
6.000000D+01	0.0	1.750000D+04	1.546598D-03	3.031408D+02
4.400000D+01	7.277265D+00	-8.900619D-01	7.351139D+00	1.046915D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	-2.903228D-02	2.220119D+03
7.050000D+02	0.0	-2.335070D-01	0.0	6.690840D+03
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.603056D+01	2.393844D-01	2.800000D+00	2.800000D+00	3.458346D+02
1.679517D+01	9.913450D-02	4.000000D+00	4.000000D+00	-1.263524D+01
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.641287D+01	-1.505960D+00	4.977953D-02	5.907599D-02	7.296795D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.047303D+04	1.031262D+02	8.674411D+01	3.210959D+02	6.134953D+02
7.048515D+03	-1.212345D+02	4.373764D+01	-6.927967D+02	4.101541D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.274398D+04	3.127376D+01	2.904591D+01	8.602029D+01	6.406063D+02
1.482843D+04	3.446494D+02	-9.700564D+02	3.514875D+01	7.453861D+02
XR	L'DE	SHPTOT	WFF	NMLB
3.902650D+02	2.280157D+00	1.485992D+03	1.986992D+03	4.034991D-02
SIGOF	CISF	CPSF	AMTF	LAMDAF
SIGOR	CISR	CPSR	AMTR	LANDAR
5.841923D-02	1.138535D-01	5.447825D-03	7.582261D-01	-3.099304D-02
5.841923D-02	7.669684D-02	6.338891D-03	7.588332D-01	-6.107244D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
1.436314D-01	1.791936D+01	1.796438D+00	9.836996D-01	3.986613D+00
1.437379D-01	1.135388D+01	7.168741D-39		2.739692D+00
A1F	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B180R	A270R
5.213561D-01	9.961548D-01	3.366958D+00	4.404558D+00	8.866301D+00
-1.124935D+00	6.659636D-01	3.783532D+00	1.5331496D+00	6.930382D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.013364D+02	-2.222735D+00	3.600000D+02	-1.701379D+00	1.124338D+00
1.061179D+02	-1.737121D+01	3.600000D+02	-8.476704D-01	1.307282D+00

PAGE 4

CASE 7

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.657634D-01		CTFP	A90F	
5.693615D-01		CTR _P	A90RA	
	1.141221D-01		2.744710D+00	
	7.293551D-02		2.212409D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
7.853860D+00	6.484601D+02	1.498866D+03	4.000358D-02	
5.019405D+00	7.504055D+02	1.499866D+03	7.000627D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

CASE 9

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
8.000000D+01	0.0	1.750000D+04	1.566598D-03	4.580096D+02
4.400000D+01	5.370978D+00	9.528340D-01	5.447351D+00	1.031782D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	-2.317144D-02	1.438788D+03
7.050000D+02	0.0	-2.597354D-01	0.0	6.942630D+03
THEOF	AICF	B1TF	B1CF	DFA
THEOR	AICR	B1TR	B1CR	LFW
1.697937D+01	-9.912609D-02	2.800000D+00	2.800000D+00	6.267207D+02
1.619752D+01	-2.811722D-01	4.000000D+00	4.000000D+00	9.947323D+01
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.613845D+01	-1.594802D+00	6.601907D-02	-1.119058D-01	7.084067D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.032402D+04	2.860902D+02	2.924399D+01	9.597598D+02	4.997542D+02
7.090137D+03	-1.342761D+01	5.927729D-01	-1.951755D+02	2.393421D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.252566D+04	1.577001D+02	5.403786D+01	8.743804D+01	6.296321D+02
1.305989D+04	6.146580D+02	-1.4466572D+03	1.227133D+02	6.564862D+02
XR	L/DE	SHPTOT	WFF	NMLB
6.729900D+02	3.521592D+00	1.386118D+03	1.387118D+03	5.767353D-02
SIGOF	CISF	CPSF	AMIF	LAMDAF
SIGOR	CTSR	CPSR	AMIR	LAMDAR
5.841923D-02	1.121961D-01	5.354699D-03	7.901361D-01	-3.278676D-02
5.841923D-02	7.763237D-02	5.582871D-03	7.905236D-01	-5.206956D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFFR	DFF	AOF
1.911553D-01	1.338583D+01	1.784140D+00	*.306534D-01	3.906206D+00
1.915753D-01	8.985564D+00	7.095555D-39		2.702328D+00
AIF	BIF	BETAOF	B180F	A270F
AIR	BIR	BETAO R	B180R	A270R
1.558511D+00	8.114555D-01	2.157769D+00	5.280250D+00	9.970920D+00
-3.168933D-01	3.886119D-01	2.876009D+00	2.241982D+00	7.625208D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPR
1.351152D+02	-4.129022D+00	3.600000D+02	-2.570511D+00	1.757104D+00
1.378765D+02	-1.159971D+01	3.600000D+02	-1.945971D+00	5.014423D-01

CASE 9

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	HFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.342498D-01		CTFP	A90F	
5.366588D-01		CTR _P	A90RA	
	1.124726D-01		1.950704D+00	
	7.568023D-02		1.469198D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.652010D+01	6.461522D+02	1.413754D+03	5.654692D-02	
1.111603D+01	6.676022D+02	1.414754D+03	9.895711D+02	

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.1393350D+05	1.679530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.070230D-02	-1.677412D-01	-5.212119D-02	4.97109D-01
-4.964772D-04	2.002136D+00	-8.463754D-03	-6.680941D-02
5.3889709D-02	-4.020447D-02	-4.144368D-02	7.252766D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-2.709279D-02	-7.559920D-01	6.409344D-01	-5.602108D+00
5.022744D-03	-3.885754D+00	2.849806D-03	6.758951D-01
-5.162227D-01	-4.089990D-01	5.000264D-02	-6.946649D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.5599253D-03	1.174804D-01	3.314653D-01	2.488705D-02
6.690870D-04	-9.990408D-01	-3.638090D-03	9.003697D-02
2.999844D-03	-2.560492D-01	1.218587D-03	4.036798D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.2999782D-03	-1.610950D+00	7.185630D-03	-1.936179D-02
-8.2488930D-02	-1.9611759D-01	8.811199D-01	-1.110033D+01
1.679644D-03	-2.664818D-01	2.462887D-01	2.260246D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LAALPHA
-2.320950D-04	-8.557087D-01	-3.048518D-02	-2.289252D-02
-7.339317D-03	4.470300D-02	3.432792D-01	-9.876294D-01
-5.011030D-04	-6.669484D-02	-5.302080D-02	-6.743188D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
9.249256D-05	-4.766306D-02	3.825920D-02	1.040596D-02
-1.030109D-03	-1.235623D-01	1.183452D-02	-1.386186D-01
-3.375339D-04	-6.585546D-02	1.154151D-01	-4.542090D-02

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.571D-05-0.463D-02	0.102D-03	0.138D-01-0.106D-02	0.528D-01		
CIR	0.119D-04	0.849D-02	0.643D-04	0.865D-02	0.251D-02	0.348D-01
CHF	0.291D-05	0.205D-02	0.518D-05	0.697D-03	0.497D-03	0.366D-02
CHR	0.249D-05	0.176D-02	0.134D-05	0.180D-03	0.162D-03	0.169D-02
AIF	0.484D-03	0.341D+00	0.689D-03	0.927D-01	0.115D+00	0.574D+00
AIR	0.537D-03	0.379D+00	0.439D-03	0.590D-01	0.955D-01	0.470D+00
VFR	-0.198D+00-0.766D+02	0.204D+00	0.274D+02-0.231D+01	0.106D+03		
VRR	-0.354D-01-0.250D+02	0.129D+00	0.173D+02	0.529D+01	0.649D+02	
LF			0.205D+02	0.276D+04		
DF			-0.607D+00	0.817D+02		
HF			0.629D+02	0.847D+04		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.337D-05-0.454D-03	-0.379D-03-0.116D-03	0.116D-03	0.672D-02	
CYR	0.239D-05	0.321D-03	0.179D-03	0.174D-04	0.472D-02
BIF	-0.262D-03	-0.353D-01	-0.997D-01	0.222D-01	0.192D+01
BIR	0.530D-03	0.713D-01	0.106D+00	0.576D-02	0.103D+01
YF	-0.358D+02-0.482D+04				
LF	-0.132D+02-0.178D+04				
NF	-0.102D+03-0.137D+05				
CTF			-0.324D-03		
CTR			-0.135D-03		

FORCE = 0.157031D+07

CASE 8

PAGE 3

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.00000D+02	0.0	1.75000D+04	1.546598D-03	6.469737D+02
4.40000D+01	3.164320D+00	3.612271D-01	3.217962D+00	1.020769D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	0.0	-1.551747D-02	1.135264D+03
7.05000D+02	0.0	-2.841096D-01	0.0	7.069123D+03
THEOF	A1CF	B1FF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFFW
1.667595D+01	-5.120792D-01	2.800000D+00	2.800000D+00	9.759280D+02
1.631390D+01	-7.374642D-01	4.000000D+00	4.000000D+00	1.433412D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.649493D+01	-1.672886D+00	7.224344D-02	-2.594285D-01	7.360410D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.021675D+04	4.834300D+02	-4.670235D+01	1.720446D+03	4.129779D+02
7.158737D+03	1.175046D+02	-5.306804D+01	3.901496D+02	8.285394D+01
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.443392D+04	1.969936D+02	7.919091D+01	1.922281D+02	7.255553D+02
1.291022D+04	9.665277D+02	-2.437179D+03	1.500799D+02	6.489631D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.008618D+03	4.613613D+00	1.474518D+03	1.475518D+03	6.777279D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSFR	CPSRF	ANTR	LAMDAR
5.841923D-02	1.119720D-01	6.170247D-03	8.222070D-01	-4.153237D-02
5.841923D-02	7.856939D-02	5.518893D-03	8.222505D-01	-5.285362D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.381028D-01	1.064222D+01	1.748640D+00	9.179154D-01	3.909878D+00
2.390293D-01	7.354113D+00	7.019507D-39		2.728932D+00
AIF	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
2.794518D+00	6.705489D-01	7.951939D-01	6.415312D+00	1.148903D+01
6.334812D-01	1.345263D-01	1.839081D+00	3.135991D+00	8.667293D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BTPPF
CAPVR	ALPHAR	BETARW	ATIPR	BTPR
1.688940D+02	-6.335680D+00	3.600000D+02	-3.541162D+00	2.873842D+00
1.711491D+02	-1.006388D+01	3.600000D+02	-3.202199D+00	6.476077D-01

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NADC-81118-60
Volume 4

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CASE 8

	XFF	ZFF	MFF	TP
RMTF	0.0	0.0	0.0	
RMTF	0.0	0.0	0.0	0.0
5.031462D-01	1.112720D-01	1.311974D+00		
5.046730D-01	7.705910D-02	9.312142D-01		

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NON UNIFORM DOMINANT POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
3.132593D+01	7.568813D+02	1.527538D+03	6.542197D-02
2.169411D+01	6.706572D+02	1.528538D+03	1.144885D+03

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 10

PAGE 3

V FE 1.120000D+02 4.400000D+01	RC ALPHA 0.0 1.703885D+00	GW ALFF 1.378734D-01	RHO THETA 1.546596D-03 1.753673D+00	XF LW LF LW 7.841002D+02 1.018039D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -3.165543D-01	PSI GAMMA -9.313385D-03 0.0	XR LW LR LW 1.064355D+03 7.143431D+03
THEOF THEOR 1.722747D+01 1.661487D+01	AICF AICR -8.157883D-01 -1.093685D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 1.222192D+03 1.128738D+02
THEIAC 1.692117D+01	DELTAB -1.680283D+00	DELTIAS 9.022692D-02	DELTAR -3.900856D-01	DELTAC 7.690829D+00
TF TR 1.019275D+04 7.219478D+03	HF HR 6.029137D+02 2.014689D+02	YF YR -9.930172D+01 -9.586172D+01	MHF MHR 2.230118D+03 7.855111D+02	LHF LHR 3.252244D+02 -6.060532D+01
9F QR 1.654738D+04 1.341044D+04	LFZ DFX 1.492709D+02 1.218283D+03	YFY MF 1.013787D+02 -3.331443D+03	LF NF 2.885496D+02 1.417921D+02	RHPF RHPR 8.317932D+02 6.741075D+02
XR 1.249542D+03	L/DE 5.117366D+00	SHPTOT 1.605901D+03	WFF 1.606901D+03	NMLB 6.969939D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 1.119974D-01 7.907406D-02	CPSF CPSR 7.073112D-03 5.732726D-03	AMTF AMTR 8.415346D-01 8.412597D-01	LAMDAF LAMDAR -4.983178D-02 -5.688874D-02
MUF MUR 2.658370D-01 2.671706D-01	VF VR 9.488266D+00 6.6466603D+00	DFFR DFRF 1.688000D+00 6.135020D-41	DFF 9.192601D-01	AOF AOR 3.917599D+00 2.730740D+00
A1F A1R 3.623356D+00 1.275504D+00	B1F B1R 5.280597D-01 -9.840216D-02	BETAOF BETAOR -9.407764D-02 1.150972D+00	B180F B180R 7.182749D+00 3.728509D+00	A270F A270R 1.253230D+01 9.398207D+00
CAPVF CAPVR 1.891613D+02 1.913061D+02	ALPHAF ALPHAR -7.791115D+00 -1.007309D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -4.167759D+00 -4.015611D+00	BPTPF BPTPR 3.661633D+00 1.279294D+00

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CASE 10

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.848678D-01		CTFP	A90F	
4.858980D-01		CTR	A90RA	
		1.109746D-01	9.566799D-01	
		7.786912D-02	6.281244D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	MHLB
	DELHPR	RHPR	WFF	RP
4.276196D+01		8.745343D+02	1.678633D+03	6.668125D-02
2.999078D+01		7.040983D+02	1.679633D+03	1.166922D+03

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-4.029974D-02	-1.497962D-01	2.189382D-02	3.254427D-01
-4.057124D-04	-1.244239D+00	-2.057784D-03	-7.672700D-02
5.125690D-02	-7.379944D-02	-3.601684D-02	9.693539D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
3.158778D-03	-1.231000D+00	5.362725D-01	-6.589830D+00
6.060697D-03	-4.512371D+00	4.225776D-03	1.146179D+00
-6.166897D-01	-3.089243D-01	7.386916D-02	-1.166264D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.871836D-03	1.007799D-01	3.470622D-01	7.529435D-03
-1.174523D-03	-9.940037D-01	-5.207907D-03	2.221220D-01
-8.184419D-04	-2.745664D-01	1.605679D-03	-1.547811D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.919742D-03	-1.234536D+00	-5.927022D-02	2.061083D-03
-1.118743D-01	1.075418D-01	8.865590D-01	-2.115730D+01
-3.439970D-03	-1.237440D-01	2.386095D-01	-6.505559D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
1.245541D-04	-7.570279D-01	-5.749429D-02	-2.360308D-02
-9.216053D-03	1.791210D-01	3.451794D-01	-1.742910D+00
-2.487724D-03	-7.705182D-03	-5.608296D-02	-4.704703D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
8.931787D-05	-4.187469D-02	5.074017D-02	1.284119D-02
-1.140565D-03	-1.880210D-01	1.147457D-02	-2.157000D-01
7.2566431D-04	-7.151253D-02	1.167606D-01	1.372313D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.774D-05-0.546D-02	0.109D-03	0.207D-01-0.	101D-02	0.585D-01	
CIR	0.369D-05 0.260D-02	0.862D-04	0.163D-01 0.	264D-02	0.440D-01	
CHF	0.262D-05 0.185D-02	0.652D-05	0.123D-02-0.	203D-03	0.647D-02	
CHR	0.239D-05 0.168D-02	0.486D-05	0.919D-03-0.	761D-04	0.361D-02	
AIF	0.507D-03 0.358D+00	0.971D-03	0.184D+00-0.	116D+00	0.847D+00	
AIR	0.495D-03 0.349D+00	0.775D-03	0.146D+00-0.	883D-01	0.726D+00	
VFR	-0.605D-01-0.426D+02	0.159D+00	0.301D+02-0.	158D+01	0.847D+02	
VRR	-0.288D-01-0.203D+02	0.125D+00	0.237D+02 0.	397D+01	0.620D+02	
LLF		-0.294D+02	0.556D+04			
DF		-0.759D+00-0.	164D+03			
MF		0.798D+02	0.151D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.384D-05-0.726D-03-0.	261D-03-0.	795D-04	0.673D-02		
CYR	0.251D-05 0.475D-03	0.167D-03-0.	366D-04	0.479D-02		
B1F	-0.264D-03-0.500D-01-0.	985D-01-0.	187D-01	0.103D+01		
B1R	0.370D-03 0.700D-01	0.104D+00	0.256D-02	0.103D+01		
YF	-0.509D+02-0.962D+04					
LF	-0.308D+02-0.583D+04					
NF	-0.106D+03-0.201D+05					
CTF				-0.396D-03		
CTR				-0.250D-03		

FORCE = 0.157031D+07

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	60 kt	-2067 ft/min	0 deg	
	80	-2282		X
	100	-2875		
	120	-3987		
	60	2774		
	80	2547		X
	100	2186		
	120	1517		

V FE 6.350000D+01 4.400000D+01	RC ALPHA -2.067000D+03 2.133645D+01	GW ALFF 1.750000D+04 1.735069D+01	RHO THETA 2.378000D-03 2.667233D+00	XF LW LF LW -2.573852D+03 9.025584D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -1.551783D-01	PSI GAMMA -5.975977D-02 -1.873666D+01	XR LW LR LW -1.507999D+03 6.962667D+03
THEOF THEOR 8.757357D+00 8.401628D+00	AICF AICR 6.356432D-01 8.131748D-01	B1FF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 7.911975D+02 7.918676D+02
THETAC 8.579493D+00	DELTAB -1.083154D+00	DELTIAS -5.273281D-02	DELTAR 2.925198D-01	DELTAC 1.224413D+00
TF TR 9.361619D+03 7.108415D+03	HF HR 6.678076D+02 4.724635D+02	YF YR 9.419484D+01 8.689211D+01	MHF MHR 2.325205D+03 2.127649D+03	LHF LHR 7.270247D+02 7.128399D+02
QF QR -2.577794D+03 2.781381D+02	LFZ DFX 1.025465D+03 4.488526D+02	YFY MF 3.993409D+01 1.678749D+03	LF NF -9.489462D+01 -1.860247D+02	RHFF RHPR -1.295789D+02 1.398127D+01
XR -4.791756D+03	L/DE 3.714106D+00	SHPTOT -1.559767D+01	WFF -1.459767D+01	NMLB -4.119481D+00
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 6.669776D-02 5.019790D-02	CPSF CPSR -7.166909D-04 7.732932D-05	AMTF AMTR 7.247726D-01 7.241018D-01	LAMDAF LAMDAR 1.670067D-02 1.065110D-02
MUF MUR 1.488898D-01 1.473870D-01	VF VR 1.022427D+01 7.8668003D+00	DFFR DFRF 1.093389D+00 7.022702D-38	DFF -8.633536D-01	AUFF AOR 3.095310D+00 2.186048D+00
AIF AIR 3.778067D+00 3.456665D+00	B1F B1R 1.180521D+00 1.157485D+00	BETAOF BETAOR -7.364855D-01 -1.306783D+00	B180F B180R 6.807973D+00 5.595228D+00	A270F A270R 3.279204D+00 2.136201D+00
CAPVF CAPVR 1.072477D+02 1.050395D+02	ALPHAF ALPHAR 1.183645D+01 8.417977D+00	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR 1.561452D+01 1.779312D+01	BPIPF BPIPR 3.958209D+00 3.645312D+00

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CASE 9

	ZFF	MFF	TP
XFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
5.374486D-01	6.398810D-02	3.899533D-01	
5.3864332D-01	4.936277D-02	4.219845D-03	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WF	RP
8.114936D+00	-1.214640D+02	-1.222571D+00	-2.853027D+02
6.260160D+00	2.026143D+01	-2.225706D-01	-4.992797D+06

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 11

PAGE 3

V FE	RC ALPHA	GW ALFFF	RHO THETA	XF LW LF LW
8.320000D+01 4.400000D+01	-2.282000D+03 1.824800D+01	1.750000D+04 1.601495D+01	2.378000D-03 2.592523D+00	-1.829686D+03 8.957928D+03
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.050000D+02 7.050000D+02	3.809958D+01 0.0	0.0 -2.710778D-01	-8.851807D-02 -1.570365D+01	-1.158584D+03 6.651909D+03
THEOF THEOR	AICF AICR	B11F B11R	B1CF B1CR	DFW LFFW
8.699677D+00 7.953126D+00	5.381390D-01 7.073441D-01	-8.000000D-01 -8.000000D-01	-8.000000D-01 -8.000000D-01	1.291287D+03 1.335155D+03
THEETAC	DELTAB	DELTA S	DELTA R	DEL TAC
8.326602D+00	-1.356377D+00	-5.157820D-02	2.481600D-01	1.028218D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
9.131994D+03 6.746369D+03	4.459989D+02 2.769702D+02	8.389074D+01 7.359507D+01	1.475329D+03 1.128845D+03	7.884850D+02 7.259693D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHPP RHPR
-2.566236D+03 -1.131904D+02	1.672352D+03 8.082698D+02	7.209532D+01 2.565442D+03	-1.724437D+02 -1.992746D+02	-1.289980D+02 -5.689783D+02
XR	L'DE	SHPTOT	WFF	NMLB
-3.417256D+03	5.332948D+00	-3.468774D+01	-3.368774D+01	-2.377557D+00
SIGOF SIGOR	CTS F CTS R	CPS F CPS R	AMTF AMTR	LAMDAF LANDAR
5.861923D-02 5.841923D-02	6.526549D-02 4.772669D-02	-7.134775D-06 -3.146974D-05	7.546564D-01 7.538807D-01	1.960553D-02 1.786437D-02
MUF MUR	VF VR	DFFR DFRF	DF F	AOF AOR
1.954904D-01	7.549568D+00 5.621819D+00	1.2756673D-37	8.649536D-01	2.982804D+00 1.985913D+00
AIF AIR	B1F B1R	BETA OF BETA OR	B180F B180R	A270F A270R
2.396124D+00 1.833167D+00	1.280334D+00 1.178807D+00	4.613178D-01 7.867689D-02	5.26895D+00 3.743001D+00	3.782377D+00 2.201885D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
1.405198D+02 1.390194D+02	8.748002D+00 7.529329D+00	4.085339D-17 4.116890D-17	1.114413D+01 1.308117D+01	2.716738D+00 2.179469D+00

CASE 11

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90RA		
5.060627D+01	6.350844D+02	3.193947D+02		
5.073284D+01	4.715961D+02	3.596442D+02		

NON UNIFORM DOMMASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHP R	WFF	RP
1.556236D+01	-1.134356D+02	-7.569212D+00	-1.266514D+01
1.155617D+01	5.8663390D+00	-6.569212D+00	-2.216400D+05

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-3.199849D-02	-3.897353D-01	7.771003D-03	6.306448D-01
-1.229717D-03	-2.882377D+00	-2.162742D-03	1.661405D-01
7.335296D-02	-9.263850D-02	-4.441957D-02	9.791029D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-1.2900186D-02	2.287112D+00	6.854787D-01	-8.99640D+00
-9.986261D-03	-6.274125D+00	-1.409239D-02	-1.332949D+00
-8.468111D-01	1.998540D-01	4.633355D-02	-1.130309D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-4.683806D-03	4.160169D-01	4.733655D-01	-4.202598D-03
-1.691836D-03	-1.396273D+00	-5.074527D-03	-2.258234D-01
1.711362D-03	-9.259558D-02	1.250290D-03	2.284298D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
1.311098D-03	-2.582759D+00	8.362605D-02	2.516285D-02
-1.408001D-01	-4.267066D-01	7.899454D-01	-1.879377D+01
1.789337D-03	-3.439366D-01	1.957529D-01	2.388377D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-9.757894D-04	-9.536564D-01	5.869505D-02	1.186569D-02
9.456407D-04	-2.083790D-01	3.208764D-01	1.262225D-01
2.935175D-03	-1.088965D-01	-5.360027D-02	3.917822D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
5.394049D-04	-2.4066819D-02	-2.320674D-02	2.036524D-03
-6.892636D-04	4.189680D-02	9.911572D-03	-9.200174D-02
-1.179632D-03	-1.577803D-02	1.036216D-01	-1.574553D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	-0.909D-05	-0.641D-02	0.103D-03	0.137D-01	-0.117D-02	0.522D-01
CTR	0.580D-05	0.609D-02	0.726D-04	0.969D-02	0.224D-02	0.392D-01
CHF	0.202D-06	0.143D-03	0.653D-05	0.872D-03	-0.412D-03	0.439D-02
CHR	0.779D-06	0.549D-03	0.362D-05	0.483D-03	-0.165D-03	0.270D-02
A1F	0.143D-03	0.101D+00	0.657D-03	0.877D-01	-0.785D-01	0.587D+00
AIR	0.149D-03	0.105D+00	0.429D-03	0.573D-01	-0.574D-01	0.502D+00
VFR	-0.796D-01	-0.498D+02	0.192D+00	0.256D+02	-0.222D+01	0.105D+03
VRR	-0.283D-01	-0.199D+02	0.139D+00	0.185D+02	0.444D+01	0.796D+02
LF			0.388D+02	0.517D+04		
DF			-0.189D+01	-0.252D+03		
MF			0.110D+03	0.147D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.951D-06	-0.127D-03	0.329D-03	-0.590D-04	0.386D-02
CYR	0.599D-06	0.800D-04	0.253D-03	0.185D-04	0.283D-02
B1F	0.999D-04	0.133D-01	-0.660D-01	-0.111D-01	0.102D+01
B1R	-0.870D-06	-0.116D-01	0.648D-01	0.415D-02	0.102D+01
YF	-0.728D+02	-0.972D+04			
LF	0.547D+02	0.730D+04			
NF	-0.863D+02	-0.115D+05			
CTF			-0.190D-03		
CTR			-0.904D-04		

FORCE = 0.241446D+07

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.041000D+02	-2.875000D+03	1.750000D+04	2.378000D-03	-1.436409D+03
4.400000D+01	1.840433D+01	1.705550D+01	2.658130D+00	8.555985D+03
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.850000D+02	3.809958D+01	0.	-1.434751D-01	-9.839404D+02
7.850000D+02	0.0	-4.355062D-01	-1.581515D+01	6.071650D+03
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFW
8.365613D+00	4.983088D-01	1.600000D+00	1.600000D+00	2.075510D+03
7.235471D+00	6.6333799D-01	1.600000D+00	1.600000D+00	2.265210D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
7.800542D+06	-1.447463D+00	-5.734204D-02	2.437088D-01	6.205753D-01
TF	HF	YF	MHF	LHF
8.675204D+03	9.475954D+01	8.949809D+01	9.076034D+01	8.930177D+02
6.1508660D+03	9.998173D-01	6.879203D+01	-4.191562D+02	7.941693D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
-2.634872D+03	2.8046630D+03	1.116462D+02	-2.656211D+02	-1.324481D+02
-4.557975D+02	1.254179D+03	4.536126D+03	-4.730771D+02	-2.291174D+01
XR	L/DE	SHPTOT	WFF	NMLB
-2.653607D+03	7.055232D+00	-5.535987D+01	-5.435987D+01	-1.842525D+00
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	6.173437D-02	-7.325601D-04	7.886099D-01	3.047942D-02
5.841923D-02	6.3996486D-02	-1.267230D-04	7.853024D-01	3.378584D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.463826D-01	5.726080D+00	1.198706D+00	8.827549D-01	2.733807D+00
2.444643D-01	4.081950D+00	3.062386D-36		1.7033133D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAR	B180R	A270R
1.473636D-01	1.450107D+00	2.387332D+00	2.696023D+00	3.967712D+00
-6.805809D-01	1.289566D+00	2.267605D+00	9.133757D-01	1.974276D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.758187D+02	8.904326D+00	3.600000D+02	9.051690D+00	1.457576D+00
1.745911D+02	9.195722D+00	3.600000D+02	1.072375D+01	1.458139D+00

PAGE 4

CASE 10

	XFF	YFF	ZFF	MFF	NFF	TP
RHTF	0.0	0.0	0.0	0.0	0.0	0.0
RMTF			CTFP		A90F	
RMTR			CTR		A90RA	
4.739856D-01	6.065881D-02	4.304578D-02	3.596033D+02	3.592453D+02		
4.757588D-01						

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NON UNIFORM DOMINANT POWER CORRECTIONS

	DELHPF	RHPF	SHPOT	NMLB
	DELHPR	RHPR	WFF	RP
2.905554D+01	-1.0333926D+02	-5.685423D+00	-2.221785D+01	
2.061891D+01	-2.292837D+00	-4.685423D+00	-3.888123D+05	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 11

PAGE 3

V FE	RC ALPHA -3.98700D+03 1.26580D+02 4.40000D+01	GW ALFF 1.75000D+04 1.874488D+01	RHO THETA 2.37800D-03 1.446906D+00	XF LW LF LN -1.266565D+03 7.633712D+03
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -6.364489D-01	PSI GAMMA -2.274062D-01 -1.812079D+01	XR LW LR LW -8.300666D+02 5.332135D+03
THEBF THEOR	A1CF A1CR 8.123131D-01 7.812306D-01	B1TF B1TR 2.80000D+00 4.00000D+00	B1CF B1CR 2.80000D+00 4.00000D+00	DFW LFFF 3.227737D+03 3.685545D+03
6.370469D+00				
THETAC	DELTAB 6.836177D+00	DELtas 3.465254D-04	DELTAR 3.522957D-01	DELTAC -1.269947D-01
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
7.737587D+03 5.391299D+03	-8.663562D+01 -2.336012D+02	1.377272D+02 1.065442D+02	-8.009910D+02 -2.099522D+03	1.170616D+03 9.771820D+02
QF QR	LFZ DFX	YFY MF	LF NF	RHFF RHPR
-3.230736D+03 -2.169220D+02	4.553548D+03 1.807408D+03	1.603800D+02 7.785538D+03	-3.789279D+02 -1.068971D+03	-1.624007D+02 -1.090410D+01
XR -2.211146D+03	L/DE 8.652922D+00	SHPTOT -7.330476D+01	WFF -7.230476D+01	NMLB -1.662767D+00
SIGOF SIGOR	CTSF CTSR	CPSF CPSR	AMTF AMTR	LAMDAF LANDAR
5.841923D-02 5.841923D-02	5.509054D-02 3.831639D-02	-8.982252D-04 -6.030971D-05	8.199630D-01 8.201975D-01	4.700705D-02 5.510769D-02
MUF MUR	VF VR	DFFR DFRF	DFF DFF	A0F A0R
2.983898D-01 2.957962D-01	4.187936D+00 2.929993D+00	1.119274D+00 1.474993D-34	9.041098D-01 -2.236621D+00	2.218986D+00 1.226621D+00
A1F AIR	B1F B1R	BETA0F BETA0R	B180F B180R	A270F A270R
-1.300645D+00 -3.410914D+00	1.901021D+00 1.586809D+00	3.342349D+00 4.609862D+00	7.354799D-01 -2.276819D+00	3.591265D+00 1.498275D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARN	ATIPF ATIPR	BPTPF BPTPR
2.136509D+02 2.126806D+02	1.006204D+01 1.132939D+01	3.600000D+02 3.600000D+02	8.761399D+00 9.151130D+00	2.303380D+00 3.761954D+00

PAGE 4

CASE 11

	XFF	ZFF	MFF	TP
LFF	0.0	0.0	NFF	
	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR _P	A90RA	
4.409834D-01		5.412023D-02	3.590825D+02	
4.433153D-01		3.780289D-02	3.588005D+02	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPPF	SHPTOT	HMLB
	DELHPR	RHPR	WFF	RP
4.335181D+01	-1.190489D+02	3.282100D-01	9.524096D+01	
3.028116D+01	1.937196D+01	1.328210D+00	1.666717D+06	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

CASE 12

		PAGE 3
V	RC	GW
FE	ALPHA	ALFF
6.610000D+01	2.774000D+03	1.750000D+04
4.400000D+01	-2.351878D+01	-2.859338D+01
VTF	CGF	BETAF
VTR	CGL	PHI
7.050000D+02	3.809958D+01	0.0
7.050000D+02	0.0	-4.913330D-01
THEOF	A1CF	B1TF
THEOR	A1CR	B1TR
1.896383D+01	-8.4704821D-01	-2.500000D+00
1.793609D+01	-1.477590D+00	-2.500000D+00
THETAC	DELTAB	DELTA5
1.844996D+01	-5.573242D-01	1.998959D-01
TF	HF	YF
TR	HR	YR
1.097815D+04	1.1577994D+03	-1.113052D+02
8.401954D+03	8.536861D+02	-1.857842D+02
QF	LFZ	YFY
QR	DFX	NF
2.966461D+04	-1.965073D+03	7.971347D+01
2.317441D+04	5.519012D+02	-3.423192D+03
XR	L/DE	SHPTOT
8.542442D+03	3.475222D+00	2.756079D+03
SIGOF	CTSF	CPSF
SIGOR	CTS R	CPS R
5.841923D-02	7.820213D-02	8.247501D-03
5.841923D-02	5.940981D-02	6.443063D-03
MUF	VF	DFFR
MUR	VR	DFRF
1.327778D-01	1.074535D+01	6.401733D-01
1.3664153D-01	8.073664D+00	4.977855D-03
A1F	B1F	BETA0F
AIR	B1R	BETA0R
5.867040D+00	-1.666347D-01	-1.410232D+00
5.402393D+00	-1.026911D+00	-1.956719D+00
CAPVF	ALPHAF	BETAFW
CAPVR	ALPHAR	BETARW
1.116609D+02	-3.303612D+01	3.600000D+02
1.152846D+02	-3.346521D+01	3.600000D+02
		XF LW
		LF LW
		5.014151D+03
		9.834577D+03
		XR LW
		LR LW
		3.920932D+03
		7.479833D+03
		DFW
		LFFW
		1.290216D+03
		-1.581597D+03
		DELIAC
		8.875936D+00
		LHF
		LHR
		-1.026292D+02
		-6.324347D+02
		RHPPF
		RHPR
		1.491162D+03
		1.164917D+03
		NMLB
		2.182212D-02
		AMTF
		AMTR
		7.233042D-01
		-1.015921D-01
		-1.016262D-01
		A0F
		A0R
		4.601992D+00
		3.513752D+00

CASE 12

PAGE 4

	XFF	ZFF	MFF	TP
LFF	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
5.449466D-01	6.972356D-02	2.866544D+00		
5.439912D-01	5.302929D-02	2.295547D+00		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
DELHPF	RHPF	WFF	RP
DELHPR	RHPR		
9.930217D+00	1.501093D+03	2.773562D+03	2.382358D-02
7.552573D+00	1.172469D+03	2.774562D+03	4.169127D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC	GW	RHO	XF LW
8.400000D+01	ALPHA	ALFFF	THETA	LF LW
4.400000D+01	2.547000D+03	1.750000D+04	2.378000D-03	4.051106D+03
-1.701836D+01	-2.025123D+01	4.090563D-01	1.051987D+04	
VTF VTR	CGF	BETAF	PSI	XR LW
7.050000D+02	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809953D+01	0.0	1.764374D-01	3.064393D+03
0.0	-5.923880D-01	1.741049D+01	7.776736D+03	
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFW
1.916420D+01	-1.128636D+00	-8.000000D-01	-8.000000D-01	1.515284D+03
1.797376D+01	-1.684203D+00	-8.000000D-01	-8.000000D-01	-1.732736D+03
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.856898D+01	-1.009050D+00	1.917065D-01	-5.785217D-01	8.968202D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.122175D+04	1.073075D+03	-1.393759D+02	3.245817D+03	-6.147682D+01
8.325689D+03	7.423124D+02	-1.993780D+02	2.833839D+03	-6.022140D+02
QF	LFZ	YF	LF	RHF
QR	DFX	MF	NF	RHR
3.012478D+04	-2.100351D+03	1.261660D+02	4.481481D+02	1.514294D+03
2.278371D+04	9.417971D+02	-5.877401D+03	-1.443099D+03	1.145278D+03
XR	L'DE	SHPTOT	WFF	NMLB
6.760922D+03	4.444693D+00	2.759571D+03	2.760571D+03	2.903442D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.002123D-02	8.375438D-03	7.514272D-01	-1.024385D-01
5.841923D-02	5.923041D-02	6.334440D-03	7.529086D-01	-1.012565D-01
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.800637D-01	8.860857D+00	8.070948D-01	1.111182D+00	4.674257D+00
1.838115D-01	6.488342D+00	2.188324D-03		3.443143D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
5.277546D+00	-9.981718D-02	-8.666944D-01	9.740325D+00	9.139088D+00
4.606136D+00	-9.778351D-01	-1.343372D+00	7.879054D+00	7.225988D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.418773D+02	-2.652351D+01	3.600000D+02	3.387592D+02	5.278490D+00
1.449291D+02	-2.660170D+01	3.600000D+02	3.405878D+02	4.708784D+00

CASE 12

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
5.169574D-01	7.458207D-02	2.288174D+00		
5.162205D-01	5.513422D-02	1.723654D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
1.885642D+01	1.533150D+03	2.792367D+03	3.007124D-02	
1.393946D+01	1.159217D+03	2.793367D+03	5.262466D+02	

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDEL B	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDEL R	XALPHA
-4.579067D-02	-2.171344D-01	4.642560D-02	2.790088D-01
-2.729147D-03	1.754976D-01	-9.374201D-03	-3.704315D-01
3.845118D-02	-1.597358D-01	-2.596692D-02	5.219039D+00
ZU	ZP	ZDEL B	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDEL R	ZALPHA
-9.874582D-04	-8.006763D-01	4.211869D-01	-9.699042D+00
-3.440208D-03	-3.5385533D+00	2.258629D-03	-4.669450D-01
-9.191466D-01	-3.863994D-01	1.106367D-01	-1.247570D+02
MU	MP	MDEL B	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDEL R	MALPHA
-2.686832D-03	1.319473D-01	4.53205D-01	-4.545205D-02
-1.163989D-03	-1.226190D+00	-6.135949D-03	1.579901D-01
-5.667251D-03	-3.890556D-01	1.429419D-03	-7.692250D-01
YU	YP	YDEL B	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDEL R	YALPHA
4.086929D-03	-1.462218D-01	-8.982025D-02	3.647925D-02
-1.621039D-01	8.731237D-03	1.023075D+00	-2.200262D+01
3.471111D-03	6.019112D-02	2.435053D-01	4.711394D-01
LU	LP	LDEL B	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDEL R	LALPHA
8.635998D-04	-3.196363D-01	-9.132178D-02	-1.503435D-02
-1.849683D-02	1.860600D-01	3.833215D-01	-2.510605D+00
1.708046D-03	9.745103D-02	-7.109672D-02	2.318358D-01
NU	NP	NDEL B	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDEL R	NALPHA
-2.503403D-04	-6.333888D-02	7.711315D-02	1.916414D-03
4.338784D-03	-2.430834D-01	1.062173D-02	5.889100D-01
-1.231224D-03	-1.0066445D-01	1.340063D-01	-1.671160D-01

LONGITUDINAL

	U	MU	MU	W	W	ALPHA	Q	THETAC
CTF	-0.268D-05	-0.189D-02	0.992D-04	0.135D-01	-0.120D-02	0.528D-01		
CTR	0.572D-05	0.403D-02	0.896D-04	0.122D-01	0.202D-02	0.459D-01		
CHF	0.255D-05	0.186D-02	0.109D-04	0.148D-02	0.181D-03	0.653D-02		
CHR	0.242D-05	0.171D-02	0.808D-05	0.110D-02	0.189D-03	0.509D-02		
AIF	0.565D-03	0.398D+00	0.634D-03	0.861D-01	0.817D-01	0.564D+00		
AIR	0.519D-03	0.366D+00	0.551D-03	0.748D-01	0.649D-01	0.531D+00		
VFR	-0.604D-01	-0.426D+02	0.204D+00	0.277D+02	0.259D+01	0.979D+02		
VRR	-0.280D-01	-0.197D+02	0.178D+00	0.242D+02	0.410D+01	0.829D+02		
LF			0.422D+02	0.573D+04				
DF			-0.435D+00	-0.590D+02				
MF			-0.217D+02	0.294D+04				

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.296D-05	-0.402D-03	-0.416D-04	-0.369D-04	0.498D-02	
CYR	0.204D-05	0.276D-03	-0.866D-05	-0.504D-04	0.369D-02	
B1F	0.124D-03	0.168D-01	0.707D-01	-0.160D-01	0.105D+01	
B1R	-0.116D-03	-0.157D-01	0.747D-01	-0.468D-02	0.104D+01	
YF	-0.761D+02	-0.103D+05				
LF	-0.153D+03	-0.208D+05				
NF	0.476D+03	0.646D+05				
C1F			-0.346D-03			
CTR			-0.267D-03			

FORCE = 0.241446D+07

QFU	QFP	QFDEL B	QRDEL B	QFDEL TAC	QRDEL TAC	QFDEL D+01	QRDEL D+01	QFBETA	QRBETA	QFALPHA	QRALPHA	QFDEL D+02	QRDEL D+02
QFY	QFQ	QFDELS	QRDELS	QFBETA	QRBETA	QFDEL D+02	QRDEL D+02	QFALPHA	QRALPHA	QFDEL D+03	QRDEL D+03	QFBETA	QRBETA
QFW	QFR	QFDELR	QRDELR	QFDEL D+03	QRDEL D+03	QFALPHA	QRALPHA	QFDEL D+04	QRDEL D+04	QFBETA	QRBETA	QFDEL D+05	QRDEL D+05
-0.854D-02	-0.447D+00	0.120D+01	0.254D+01	-0.103D-02	0.216D+01	-0.215D-01	0.139D+00	-0.747D-01	-0.335D-01	0.101D+02	-0.228D-01	-0.112D+01	-0.242D+00
QRU	QRP	QRDEL B	QRDEL B	QFDEL D+00	QRDEL D+00	QFDEL D+01	QRDEL D+01	QFBETA	QRBETA	QFALPHA	QRALPHA	QFDEL D+02	QRDEL D+02
QRV	QRQ	QRDELS	QRDELS	QFBETA	QRBETA	QFDEL D+02	QRDEL D+02	QFALPHA	QRALPHA	QFDEL D+03	QRDEL D+03	QFBETA	QRBETA
QRW	QRR	QRDELR	QRDELR	QFDEL D+03	QRDEL D+03	QFALPHA	QRALPHA	QFDEL D+04	QRDEL D+04	QFBETA	QRBETA	QFDEL D+05	QRDEL D+05
0.6112D-03	0.834D+00	-0.116D+01	0.202D+01	-0.178D-02	0.443D+01	-0.149D-01	0.242D+00	-0.824D-01	-0.104D+01	-0.112D+02	-0.228D-01	-0.112D+01	-0.242D+00

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.023000D+02	2.186000D+03	1.750000D+04	2.378000D-03	3.432384D+03
4.400000D+01	-1.19496D+01	-1.409875D+01	3.093991D-01	1.095433D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	1.459859D-01	2.475230D+03
7.050000D+02	0.0	-7.017556D-01	1.217318D+01	7.712794D+03
THE0F	A1CF	B1TF	B1CF	DFW
THE0R	A1CR	B1TR	B1CR	LFFW
1.944812D+01	-1.492450D+00	1.600000D+00	1.600000D+00	1.851798D+03
1.805091D+01	-2.014585D+00	1.600000D+00	1.600000D+00	-1.666693D+03
THETAC	DELTAB	DELTA S	DELIAR	DELTAC
1.874952D+01	-1.238493D+00	1.660975D-01	-7.303751D-01	9.108152D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.145078D+04	8.112549D+02	-1.957306D+02	2.434744D+03	-1.108542D+02
8.085307D+03	4.916918D+02	-2.255339D+02	1.843415D+03	-6.716442D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
3.086026D+04	-2.014003D+03	1.883592D+02	6.1501194D+02	1.5512644D+03
2.230374D+04	1.466567D+03	-8.073866D+03	-1.351762D+03	1.121151D+03
XR	L/DE	SHPTOT	WFF	NMLB
5.592952D+03	5.413965D+00	2.772415D+03	2.773415D+03	3.605654D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	8.123636D-02	8.579921D-03	7.786945D-01	-1.002809D-01
5.841923D-02	5.747464D-02	6.200997D-03	7.800864D-01	-9.771124D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
2.281014D-01	7.514148D+00	1.000077D+00	1.045525D+00	4.684686D+00
2.317935D-01	5.263127D+00	9.412404D-05		3.289300D+00
A1F	B1F	BETA0F	B180F	A270F
A1P	B1R	BETA0R	B180R	A270R
3.956326D+00	-1.799892D-01	3.672697D-01	8.317658D+00	1.033672D+01
2.994433D+00	-1.090584D+00	5.609946D-03	6.028574D+00	7.853877D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARI	ATIPR	BPTPR
1.727787D+02	-2.145011D+01	3.600000D+02	3.425064D+02	3.960419D+00
1.753630D+02	-2.127279D+01	3.600000D+02	3.440445D+02	3.186848D+00

CASE 13

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.849493D-01		CTFP	A90F	
4.8466874D-01		CTR _P	A90RA	
		7.766220D-02	1.768656D+00	
		5.4668089D-02	1.241619D+00	

NON UNIFORM DOMINASH POWER CORRECTIONS

	DELHPF	RHPF	SHP _{TOT}	NMLB
	DELHPR	RHPR	WFF	RP
3.562717D+01	1.586892D+03	2.833127D+03	3.609577D-02	
2.508460D+01	1.146235D+03	2.834127D+03	6.316760D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LF LW
1.210000D+02	1.517000D+03	1.750000D+04	2.378000D-03	2.767796D+03
4.400000D+01	-8.375815D+00	-9.867043D+00	-1.215622D+00	1.112401D+04
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	0.0	8.664204D-02	2.060822D+03
7.050000D+02	0.0	-8.649550D-01	7.106758D+00	7.572910D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEDR	A1CR	B1TR	B1CR	LFW
1.949811D+01	-1.682992D+00	2.800000D+00	2.800000D+00	2.370620D+03
1.8346221D+01	-2.060185D+00	4.000000D+00	4.000000D+00	-1.404225D+03
THETAC	DELTA _B	DELTA _S	DELTA _T	DELTAC
1.892016D+01	-1.771593D+00	1.355652D-01	-8.051022D-01	9.240435D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.143657D+04	7.803897D+02	-2.171316D+02	2.341525D+03	-3.447524D+01
7.842944D+03	2.901384D+02	-2.10265D+02	8.803730D+02	-5.973113D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
3.028279D+04	-1.734565D+03	2.770513D+02	8.373211D+02	1.522237D+03
2.216650D+04	2.140787D+03	-9.876335D+03	-8.941615D+02	1.114252D+03
XR	L/DE	SHPTOT	WFF	NMLB
4.567593D+03	6.256403D+00	2.7336488D+03	2.737488D+03	4.386152D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS _R	CPS _R	AMTR	LAMDAR
5.241923D-02	8.165417D-02	8.419370D-03	8.079471D-01	-9.809621D-02
5.841923D-02	5.596833D-02	6.162838D-03	8.079302D-01	-9.3488926D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
2.758808D-01	6.427920D+00	1.142698D+00	9.990702D-01	4.651076D+00
2.794994D-01	4.378402D+00	3.011712D-07		3.179687D+00
A1F	B1F	BETA _{0F}	B180F	A270F
AIR	B1R	BETA _{0R}	B180R	A270R
3.804661D+00	-5.338472D-02	2.325677D-01	7.921644D+00	1.129251D+01
1.4288918D+00	-9.708345D-01	1.275210D+00	4.195766D+00	8.469147D+00
CAPVF	ALPHAF	BETA _{FW}	ATIPF	BPTPF
CAPVR	ALPHAR	BETARN	ATIPR	BPTPR
2.043617D+02	-1.787581D+01	3.902153D-02	3.459288D+02	3.805036D+00
2.064308D+02	-1.734191D+01	3.851633D-02	3.460531D+02	1.727520D+00

CASE 14

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	
0.0	0.0	0.0	0.0
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.546141D-01	7.886514D-02	1.189321D+00	
4.557291D-01	5.368917D-02	8.358874D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	NHLPB
DELHPR	RHPR	WFF	RP
5.692575D+01	1.579162D+03	2.832167D+03	4.270838D-02
3.875345D+01	1.153005D+03	2.833167D+03	7.473967D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIR SPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	50 kt	0 ft/min	-45 deg	
			-30	X
			-15	
			0	
			15	
			30	X
			45	
95			-30	
			-20	X
			-10	
			0	
			10	
			20	X
			30	
140			-10	X
			-7	
			-4	
			0	
			4	
			7	
			10	X

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PAGE 3

V	RC	GW	RHO	XFLW
FE	ALPHA	ALFFF	THETA	LF LW
5.00000D+01	0.0	1.75000D+04	2.37800D-03	1.772341D+03
4.40000D+01	-6.236416D+00	-1.692176D+01	4.100297D+00	1.119414D+04
VTF	CGF	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LRLW
7.050000D+02	3.809958D+01	-1.032663D+01	4.502323D+01	1.926327D+03
7.050000D+02	0.0	-1.032663D+01	0.0	8.159022D+03
THEOF	AICF	B1TF	B1CF	DFW
THEOR	AICR	B1TR	B1CR	LFFW
1.496215D+01	4.079687D-01	-2.500000D+00	-2.500000D+00	5.059253D+02
1.450009D+01	1.997585D+00	-2.500000D+00	-2.500000D+00	-2.442937D+03
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.473112D+01	9.550904D-02	-5.391216D-01	5.213020D-01	5.993118D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.130530D+04	8.001380D+02	4.241911D+02	2.239212D+03	1.454419D+03
8.360870D+03	6.133759D+02	9.388942D+01	2.618026D+03	6.229749D+02
QF	LFZ	YFY	LF	RHPP
QR	DFX	MF	NF	RIPR
1.536611D+04	-2.483439D+03	2.797863D+03	-1.2466668D+03	7.724139D+02
1.389881D+04	2.375522D+02	-2.109491D+03	-9.382004D+03	6.986568D+02
XR	L/DE	SHPTOT	WF	NMLB
3.613292D+03	2.643892D+00	1.571071D+03	1.572071D+03	3.180519D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTS	CPS	AMTR	LAMDAR
5.841923D-02	8.023655D-02	4.272160D-03	7.060270D-01	-4.788993D-02
5.841923D-02	5.942321D-02	3.864215D-03	7.074288D-01	-5.222612D-02
MUF	VF	DFFR	DFF	AOF
MUR	VR	DFRF		AOR
1.175463D-01	1.455811D+01	8.605284D-01	9.235778D-01	4.371801D+00
1.181931D-01	1.057689D+01	2.796694D-01		3.209181D+00
AIF	B1F	BETAOF	B180F	A270F
AIR	B1R	BETAOR	B160R	A270R
6.227744D+00	-9.705907D-01	6.869257D-02	8.526584D+00	6.038057D+00
2.254036D+00	3.747647D+00	9.331660D-01	5.408517D+00	4.881787D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARM	ATIPR	BPTPR
8.506551D+01	-1.304521D+01	3.140758D+02	3.484913D+02	4.337726D+00
8.736030D+01	-1.748000D+01	3.143987D+02	3.490176D+02	4.3733275D+00

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NADC-81118-60
Volume 4

CASE 15

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	
RMTF	0.0	0.0	0.0	
5.555915D-01		CTFP	A90F	
5.515047D-01		CTR _P	A90RA	
		7.936238D-02	2.348117D+00	
		5.784449D-02	1.707376D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
4.337357D+00		7.767513D+02	1.578569D+03	3.165420D-02
3.161350D+00		7.018181D+02	1.579569D+03	5.539484D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 13

PAGE 3

	V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW
5.00000D+01	0.0	1.75000D+04	2.378000D-03	9.244971D+02	LF LW
4.40000D+01	-1.663397D-01	-8.601553D+00	3.176847D+00	1.036250D+04	LR LW
VTF	CGF CGL	BETAF PHI	PSI GAMMA	XR LW	
VTR	3.809958D+01 0.0	-3.00000D+01 -5.7466887D+00	2.985120D+01 0.0	1.708283D+03 7.568455D+03	
THEOF	A1CF	B1TF B1TR	B1CF B1CR	DIA LFFW	
THEOR	A1CR	-2.50000D+00 -2.50000D+00	-2.50000D+00 -2.50000D+00	3.254197D+02 -7.232211D+02	
1.385311D+01	-3.335414D-01	1.770918D+00			
1.397627D+01					
THETAC	DELTAB	DELTA S	DELTAR	DELTAC	
1.391469D+01	-7.536605D-01	-6.817849D-01	3.402791D-01	5.360225D+00	
TF	HF	YF	MHF	LHF	
TR	HR	YR	MHR	LHR	
1.037537D+04	7.666470D+02	1.469543D+02	2.4142468D+03	7.237542D+02	
7.735790D+03	5.977376D+02	1.231028D+02	2.672160D+03	7.727147D+02	
QF	LFZ	YFY	LF	RHPF	
QR	DFX	MF	NF	RHPR	
1.187290D+04	-7.241628D+02	1.730283D+03	9.760702D+02	5.968196D+02	
1.243190D+04	3.233187D+02	-1.829663D+03	-3.796832D+03	6.249192D+02	
XR	L/DE	SHPTOT	WFF	NMLB	
1.358343D+03	2.413763D+00	1.321739D+03	1.322739D+03	3.780036D-02	
SIGOF	CTSF	CPSF	AMIF	LANDAF	
SIGOR	CTS R	CPS R	AMTR	LANDAR	
5.841923D-02	7.326251D-02	3.300962D-03	7.063162D-01	-3.876204D-02	
5.841923D-02	5.490899D-02	3.456379D-03	7.087219D-01	-5.058812D-02	
MUF	VF	DFFR	DFF	A0F	
MUR	VR	DFRF		AO R	
1.185098D-01	1.360761D+01	1.231064D+00	9.280150D-01	3.869999D+00	
1.190819D-01	9.775717D+00	1.470190D-01		2.927538D+00	
A1F	B1F	BETA OF	B180F	A270F	
AIR	B1R	BETA OR	B180R	A270R	
3.979057D+00	-9.6844602D-01	-1.708044D-01	7.785337D+00	5.274488D+00	
3.122536D+00	3.268670D+00	-2.545175D-01	5.994428D+00	4.453834D+00	
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF	
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR	
8.466807D+01	-9.324149D+00	3.296441D+02	3.543127D+02	4.095218D+00	
8.785341D+01	-1.713756D+01	3.298052D+02	3.559562D+02	4.520447D+00	

CASE 13

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR	A90RA	
5.553850D+01	7.346632D+02	1.886607D+00	
5.518491D+01	5.365759D+02	1.474370D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WF	RP
6.015123D+00	6.008347D+02	1.328686D+03	3.760285D-02
2.932524D+00	6.278517D+02	1.329686D+03	6.580499D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XY	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.704487D-02	5.176799D-02	7.076742D-02	3.989770D-01
-4.8669259D-03	1.297042D+00	4.855569D-02	-3.566436D-01
4.574346D-02	-1.283479D-01	-9.884281D-03	3.350430D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-8.989249D-02	-5.000167D+00	6.470062D-01	-7.666877D+00
7.906526D-03	-3.610281D+00	-7.723201D-01	5.789584D-01
-7.926927D-01	-1.3533126D-01	2.572907D-01	-5.805992D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.954785D-03	-3.195885D-01	6.343581D-01	3.941755D-03
-6.668125D-03	-1.280214D+00	6.042294D-03	4.883996D-01
-6.832448D-03	-2.4337250D-01	1.395379D-01	-5.004352D-01
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
2.384246D-02	-1.415636D+00	1.024940D-01	1.285271D-01
-1.200516D-01	-4.610183D-01	9.201685D-01	-8.793046D+00
-2.046244D-03	-2.083460D-01	2.320499D-01	-1.498749D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
2.483460D-03	-7.091926D-01	-2.560815D-03	3.554286D-02
-2.247797D-03	-3.136486D-02	-3.573636D-01	-1.646374D-01
-9.810742D-04	-4.634161D-02	-5.790813D-02	-7.185771D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
2.383312D-04	-1.713533D-03	3.426406D-02	3.708304D-03
7.168235D-04	-1.289925D-01	8.963545D-03	5.250295D-02
1.675712D-03	-3.481372D-02	1.192153D-01	1.227357D-01

LONGITUDINAL		U		MU		W		ALPHA		Q		THETAC	
CTF	0.452D-95	0.	319D-92	0.	875D-94	0.	641D-92	-0.	120D-02	0.	447D-01		
CTR	0.989D-95	0.	641D-92	0.	819D-94	0.	600D-92	-0.	207D-02	0.	332D-01		
CHF	0.228D-95	0.	155D-92	0.	750D-05	0.	549D-03	-0.	306D-03	0.	427D-02		
CHR	0.283D-95	0.	143D-92	0.	656D-05	0.	481D-03	-0.	645D-04	0.	327D-02		
AIF	0.523D-93	0.	369D+00	0.	385D-03	0.	282D-01	-0.	850D-01	0.	333D+00		
AIR	0.633D-93	0.	446D+00	0.	356D-03	0.	261D-01	-0.	376D-01	0.	295D+00		
VFR	-0.112D+00	-0.	788D+02	0.	288D+00	0.	211D+02	-0.	427D+01	0.	134D+03		
VRR	-0.573D-01	-0.	494D+02	0.	265D+00	0.	194D+02	0.	695D+01	0.	912D+02		
LF						0.	216D+02	0.	158D+04				
DF						0.	509D+00	0.	373D+02				
MF						0.	118D+02	0.	862D+03				

LATERAL-DIRECTIONAL

		V		BETA		P		R		AIC			
CYF	-0.191D-05	-0.	140D-03	-0.	197D-03	-0.	533D-04	0.	448D-02				
CYR	0.110D-05	0.	807D-04	0.	124D-03	-0.	626D-05	0.	325D-02				
B1F	0.296D-03	0.	217D-01	-0.	787D-01	-0.	134D-01	0.	884D+00				
B1R	-0.335D-03	-0.	246D-01	0.	474D-01	-0.	733D-03	0.	890D+00				
YF	-0.580D+02	-0.	425D+04										
LF	0.445D+02	0.	326D+04										
NF	0.847D+02	0.	620D+04										
CTF								0.	383D-02				
CTR								-0.	522D-02				

FORCE = 0.241446D+07

X Z H Y L N	BICF	DICR	OMEGAF	OMEGAR
0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0
	CTF	CTR	QFP	QFDELB
	CHF	CHR	QFQ	QFDELS
	AIF	AIR	QFR	QFDELR
	VFR	VRR		
	QF	QR		
				QFDELTAC
				QFBETA
				QFALPHA
	-0.457D-02	0.529D+00	0.462D+00	0.960D+00
	0.251D-02	0.297D+01	-0.415D-01	0.184D+00
	-0.264D-01	-0.203D+00	-0.616D-01	-0.194D+01
	QRU	QRP	QRDELB	QRDELTAC
	QRV	QRQ	QRDELS	QRBETA
	QRW	QRR	QRDELR	QRALPHA
	-0.729D-03	-0.125D+00	-0.561D+00	0.104D+01
	-0.160D-02	0.264D+01	0.115D-01	-0.117D+00
	0.155D-01	0.259D+00	-0.370D-01	0.113D+01

V FE	RC ALPHA 0.0 1.950545D+00	GW ALFF 1.750000D+04 -5.707365D+00	RHO THETA 2.378000D-03 2.721148D+00	XFLW LFLW 5.440625D+02 1.004348D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI -1.500000D+01 -2.932507D+00	PSI GAMMA 1.487342D+01 0.0	XRLW LR LW 1.751814D+03 7.324881D+03
THEOF THEOR	A1CF A1CR 3.445326D-01 1.725115D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 3.719390D+02 -9.861093D+01
1.331416D+01 1.390930D+01	1.361173D+01	DELTAB -1.357700D+00	DELTAS -4.628573D-01	DELTAR 4.731353D-01
TF TR 1.002801D+04 7.507415D+03	HF HR 7.787916D+02 6.012106D+02	YF YR 1.664048D+02 1.798899D+02	MHF MHR 2.575097D+03 2.697433D+03	LHF LHR 8.465276D+02 1.076109D+03
QF QR 1.028140D+04 1.224397D+04	LFZ DFX -8.589417D+01 3.750799D+02	YFY MF 9.176497D+02 -1.976361D+03	LF NF 1.326283D+03 -3.738039D+03	RHPF RHPR 5.168190D+02 6.154722D+02
XR 6.073499D+02	L/DE 2.358963D+00	SHPTOT 1.233291D+03	WFF 1.233291D+03	NMLB 4.054193D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS R 7.101260D-02 5.330196D-02	CPSF CP SR 2.858485D-03 3.404128D-03	AMTF AMTR 7.077282D-01 7.096987D-01	LAMDAF LAMDAR -3.453333D-02 -5.220526D-02
MUF MUR 1.188144D-01 1.193493D-01	VF VR 1.325531D+01 9.417461D+00	DFFR DFRF 1.524387D+00 3.964018D-02	DFF DFF 9.636566D-01	A0F A0R 3.731982D+00 2.836803D+00
A1F AIR 4.398457D+00 3.779970D+00	B1F B1R 2.356924D-01 2.825744D+00	BETAOF BETAOR -7.656997D-01 -1.017571D+00	B180F B180R 8.051880D+00 6.551723D+00	A270F A270R 4.967583D+00 4.320751D+00
CAPVF CAPVR 8.449506D+01 8.848579D+01	ALPHAF ALPHAR -7.561495D+00 -1.802879D+01	BETAFW BETARW 3.448632D+02 3.449525D+02	ATIPF ATIPR -3.150998D+00 -1.269485D+00	BPTPF BPTPR 4.404768D+00 4.719428D+00

PAGE 4

CASE 16

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.547612D-01		CTFP	A90F	
5.5233307D-01		CTR P	A90RA	
		7.120458D-02	1.728226D+00	
		5.193073D-02	1.424863D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.891513D+00	5.207105D+02	1.239021D+03	4.032190D-02	
2.838167D+00	6.183104D+02	1.240021D+03	7.056333D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA 0.0 2.477197D+00	GW ALFF 1.750000D+04 -5.292865D+00	RHO THETA 2.378000D-03 2.563544D+00	XF LW LF LW 4.322979D+02 1.005718D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -2.278758D-01	PSI GAMMA -9.533098D-03 0.0	XR LW LR LW 1.809881D+03 7.359894D+03
THE0F THE0R	A1CF A1CR 4.076716D-01 3.292231D-01	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFN LFW 3.700027D+02 -1.341917D+02
1.325333D+01 1.389470D+01	-1.487774D+00	DELTIAB 2.929016D-02	DELTAS 1.431984D-01	DELTAC 5.096135D+00
THETAC 1.357401D+01	-1.487774D+00	HF HR 8.0053804D+02 6.072707D+02	YF YR 8.285086D+01 5.499747D+01	MHF MHR 2.688845D+03 2.631904D+03
TF TR	QF QR 1.006970D+04 1.225836D+04	LFZ DFX -1.180741D+02 3.754569D+02	YFY MF 4.391359D+01 -1.387756D+03	LF NF 1.230013D+02 -2.433821D+01
XR 4.226580D+02	L/DE 2.321383D+00	SHPTOT 1.222373D+03	WFF 1.223373D+03	RHPF RHPR 5.061773D+02 6.161956D+02
SIG0F SIG0R	CISF CTSR 7.165991D-02 5.352143D-02	CPSF CPSP 2.799627D-03 3.408129D-03	AMIF ANTR 7.080502D-01 7.098237D-01	LANDAF LANDAR -3.350761D-02 -5.315656D-02
MUF MUR	VF VR 1.188843D-01 1.194100D-01	DFFR DFRF 1.329676D+01 6.808184D-42	DFF 1.008079D+00	A0F A0R 3.771346D+00 2.880002D+00
A1F AIR	B1F B1R 8.975021D-01 6.2683516D-01	BETA0F BETA0R -6.506456D-01 -1.469722D+00	B180F B180R 8.081366D+00 7.100266D+00	A270F A270R 5.010281D+00 4.280320D+00
CAPVF CAPVR	ALPHAF ALPHAR -7.022803D+00 -1.841123D+01	BETAFW BETARW 3.600000D+02 3.600000D+02	ATIPF ATIPR -2.652810D+00 -2.455268D-01	BPTPF BPTPR 4.461204D+00 4.322966D+00

CASE 17

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMIF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.541844D-01		CTFP	A90F	
5.542831D-01		CTR _P	A90RA	
		7.130176D-02	1.753447D+00	
		5.217896D-02	1.517707D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPPF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
3.896824D+00	5.100742D+02	1.229121D+03	4.064639D-02
2.851714D+00	6.190473D+02	1.230121D+03	7.113119D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 5.00000D+01 4.40000D+01	RC ALPHA 0.0 2.151523D+00	GW ALFF 1.750000D+04 -5.513351D+00	RHO THETA 2.378000D-03 2.769788D+00	XF LW LF LW 4.874982D+02 1.006070D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 1.500000D+01 2.300813D+00	PSI GAMMA -1.489089D+01 0.0	XR LW LR LW 1.764246D+03 7.341657D+03
THEOF THEOR 1.336678D+01 1.385551D+01	AICF AICR 4.909216D-01 -1.187204D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 3.537995D+02 -1.262554D+02
THETAC 1.361015D+01	DELTAB -1.275996D+00	DELTAS 5.597393D-01	DEL TAR -1.707038D-01	DELTAC 5.124144D+00
TF TR 1.004041D+04 7.528224D+03	HF HR 8.034147D+02 5.816588D+02	YF YR 1.539693D+01 -7.978422D+01	MHF MHR 2.789546D+03 2.513337D+03	LHF LHR 3.4225155D+02 -2.469518D+02
QF QR 1.029836D+04 1.213864D+04	LFZ DFX -1.128839D+02 3.582900D+02	YFY MF -7.949503D+02 -1.802182D+03	LF NF -1.210920D+03 3.067463D+03	RHPP RHPR 5.176717D+02 6.101778D+02
XR 5.441063D+02	L/DE 2.348101D+00	SHPTOT 1.227850D+03	WF WFF 1.228850D+03	NMLB 4.068846D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.173812D-02 5.326451D-02	CPSF CPSR 2.863201D-03 3.374845D-03	AMTF AMTA 7.083611D-01 7.080503D-01	LAMDAF LAMDAR -3.415879D-02 -5.203564D-02
MUF MUR 1.188652D-01 1.193831D-01	VF VR 1.327278D+01 9.449809D+00	DFFR DFRF 1.532407D+00 3.965467D-02	DF DFF 9.621011D-01	AOF AOR 3.760936D+00 2.810014D+00
A1F AIR 4.232316D+00 3.840263D+00	B1F B1R 1.718678D+00 -1.447155D+00	BETAOF BETAOR -5.612632D-01 -1.073242D+00	B180F B180R 7.928472D+00 6.598719D+00	A270F A270R 5.103493D+00 4.176303D+00
CAPVF CAPVR 8.449408D+01 8.846156D+01	ALPHAF ALPHAR -7.349086D+00 -1.793043D+01	BETAFW BETARW 1.510839D+01 1.504130D+01	ATIPF ATIPR -3.116162D+00 -1.008214D+00	BPTPF BPTPR 4.567970D+00 4.103886D+00

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PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
5.5331119D-01	CTFP	A90F	A90RA	
5.552290D-01	CTR _P	7.132671D-02	1.704679D+00	
		5.204967D-02	1.454332D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	MMLB
	DELHPR	RHPR	WFF	RP
3.898188D+00	5.215699D+02	1.234592D+03	4.046642D-02	
2.844648D+00	6.130225D+02	1.235592D+03	7.081624D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

3

V FE 5.00000D+01 4.40000D+01	RC ALPHA 0.0 1.983234D-01	GW ALFF 1.75000D+04 -8.145151D+00	RHO THETA 2.378000D-03 3.349398D+00	XF LW LF LW 8.195490D+02 1.031746D+04
VTF VTR 7.05000D+02	CGF CGL 0.0 3.809958D+01	BETAF PHI 3.00000D+01 5.413936D+00	PSI GAMMA -2.983268D+01 0.0	XR LW LR LW 1.688120D+03 7.4683211D+03
THEOF THEOR 1.382162D+01 1.390033D+01	A1CF A1CR 4.536576D-01 -1.971011D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFF 2.519444D+02 -5.661754D+02
THETAC 1.386098D+01	DELTAB -7.188614D-01	DELTAS 8.117320D-01	DELTAR -3.707735D-01	DELTAC 5.318586D+00
TF TR 7.636668D+03	HF HR 8.044272D+02	YF YR -9.259052D+01 -1.273641D+02	MHF MHR 2.791863D+03 2.336850D+03	LHF LHR -5.650392D+01 -5.520680D+02
QF QR 1.170981D+04 1.2286473D+04	LFZ DFX -5.652999D+02 2.539026D+02	YFY MF -1.67693D+03 -3.08278D+03	LF NF -8.083978D+02 4.288941D+03	RHPP RHPR 5.886215D+02 6.175210D+02
XR 1.221587D+03	L/DE 2.402108D+00	SHPI01 1.306142D+03	WFF 1.307142D+03	NMLB 3.825138D-02
SIGOF SIGOR 5.841923D-02	CTSF CTSR 7.353142D-02	CPSF CPSP 3.255619D-03 3.415460D-03	AMTF AMIR 7.052468D-01 7.054869D-01	LAMDAF LANDAR -3.800720D-02 -4.998889D-02
MUF MUR 1.186037D-01 1.191513D-01	VF VR 1.355104D+01 9.660343D+00	DFFR DFFR 1.248544D+00 1.471609D-01	DFF 9.237110D-01	A0F A0R 3.913867D+00 2.876959D+00
A1F AIR 3.963041D+00 2.831909D+00	B1F B1R 2.212245D+00 -2.683499D+00	BETA0F BETA0R -1.169597D-01 -1.0346094D-02	B180F B180R 7.813423D+00 5.655923D+00	A270F A270R 5.386288D+00 4.194386D+00
CAPVF CAPVR 8.465771D+01 8.781023D+01	ALPHAF ALPHAR -8.999332D+00 -1.693672D+01	BETAFW BETARW 3.032932D+01 3.017539D+01	AT1PF AT1PR -5.338636D+00 -3.969767D+00	BPTPF BPTPR 4.538692D+00 3.901394D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
5.525568D-01	7.314703D-02	1.887029D+00	
5.554848D-01	5.294689D-02	1.538886D+00	

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NON UNIFORM DOWNMASH POWER CORRECTIONS

DELPF	RHPF	SHPOT	MMLB
DELHPR	RHPR	WFF	RP
3.997673D+00	5.926191D+02	1.313034D+03	3.805077D-02
2.893683D+00	6.204146D+02	1.314034D+03	6.658885D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499999D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-2.302187D-02	1.083341D-02	2.845174D-02	4.123772D-01
2.894139D-04	1.372679D+00	-6.303176D-02	2.119810D-02
4.154334D-02	-9.340487D-02	-3.867521D-02	3.042838D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-9.520813D-02	-4.211573D+00	6.666820D-01	-7.672633D+00
1.342726D-03	-3.291895D+00	7.565976D-01	9.834789D-02
-7.847363D-01	-4.6191917D-01	-2.193995D-01	-5.747794D+01
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-3.126742D-03	-3.137068D-01	4.383832D-01	1.649965D-03
-6.136262D-03	-1.161898D+00	-1.028924D-02	-4.494500D-01
-6.170110D-03	-2.640832D-01	-1.384853D-01	-4.519292D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-2.597230D-02	-1.352660D+00	-7.513818D-02	-1.136957D-01
-1.047486D-01	-4.445895D-02	9.135617D-01	-7.672300D+00
1.131243D-02	-7.592070D-02	2.423078D-01	8.285782D-01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.619609D-03	-6.308124D-01	-4.336736D-02	-5.270483D-02
1.165381D-03	7.592608D-02	3.519498D-01	8.535823D-02
7.744541D-03	9.043667D-03	-5.955024D-02	5.672483D-01
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-7.771616D-05	-6.710439D-02	3.046538D-02	-2.303732D-03
-1.923752D-04	-1.318116D-01	1.182523D-02	-1.409050D-02
-4.944416D-03	-5.140738D-02	1.187665D-01	-3.621533D-01

LONGITUDINAL

	U	MU	W	ALPHA	Q	THETAC
CTF	0.276D-05	0.194D-02	0.873D-04	0.640D-02-0	0.106D-02	0.446D-01
CTR	0.965D-05	0.680D-02	0.817D-04	0.599D-02-0	0.186D-02	0.331D-01
CHF	0.206D-05	0.145D-02	0.784D-05	0.574D-03-0	0.301D-03	0.458D-02
CHR	0.198D-05	0.140D-02	0.604D-05	0.443D-03-0	0.403D-04	0.296D-02
AIF	0.516D-03	0.364D+00	0.387D-03	0.284D-01-0	0.475D-01	0.335D+00
AIR	0.661D-03	0.466D+00	0.356D-03	0.261D-01-0	0.758D-01	0.293D+00
VFR	-0.119D+00	-0.837D+02	0.287D+00	0.210D+02-0	0.378D+01	0.134D+03
VRR	-0.542D-01-0	-0.382D+02	0.264D+00	0.194D+02-0	0.631D+01	0.911D+02
LF			0.181D+02	0.133D+04		
DF			0.312D+01	0.228D+03		
MF			0.870D+02	0.637D+04		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.191D-05	-0.140D-03	-0.206D-03-0	0.431D-04	0.447D-02
CYR	0.978D-06	0.717D-04	0.949D-04-0	0.263D-04	0.318D-02
BIF	0.434D-03	0.318D-01	-0.426D-01-0	0.741D-02	0.887D+00
BIR	-0.108D-03	-0.794D-02	0.843D-01-0	-0.689D-03	0.890D+00
YF	-0.500D+02	-0.366D+04			
LF	0.903D+02	0.661D+04			
NF	0.224D+02	0.164D+04			
CTF			-0.402D-02		
CTR			0.517D-02		

FORCE = 0.241446D+07

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V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
5.00000D+01	0.0	1.75000D+04	2.37800D-03	1.631463D+03
4.40000D+01	-5.683444D+00	-1.615466D+01	4.393920D+00	1.110178D+03
VTF	CGF	BETA F	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	4.500000D+01	-4.497266D+01	1.865992D+03
7.05000D+02	0.0	1.005736D+01	0.0	7.912743D+03
THE0F	A1CF	B1TF	B1CF	DFW
THE0R	A1CR	B1TR	B1CR	LFFF
1.47720D+01	-8.169071D-01	-2.500000D+00	-2.500000D+00	3.355788D+02
1.448963D+01	-3.393525D+00	-2.500000D+00	-2.500000D+00	-2.089235D+03
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.4633341D+01	-4.102644D-02	8.556555D-01	-9.288129D-01	5.917375D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.119007D+04	8.327375D+02	-4.694066D+02	2.772041D+03	-1.259341D+03
8.111078D+03	5.512087D+02	-2.738600D+02	2.132380D+03	-1.195857D+03
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.4667829D+04	-2.112198D+03	-2.847395D+03	5.230899D+02	7.378391D+02
1.388120D+04	1.270276D+02	-5.307733D+03	1.121481D+04	6.977717D+02
XR	L'DE	SHPTOT	WFF	NMLB
3.370271D+03	2.639079D+00	1.5335611D+03	1.5336611D+03	3.253914D-02
SIGOF	CTSF	CPSF	AMTF	LANDAF
SIGOR	CTS R	CPS R	AMTR	LANDAR
5.841923D-02	7.931948D-02	4.080930D-03	7.086320D-01	-4.683648D-02
5.841923D-02	5.758786D-02	3.8595320D-03	7.019162D-01	-5.112167D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
1.177066D-01	1.444424D+01	8.730257D-01	9.159751D-01	4.314658D+00
1.183233D-01	1.028579D+01	2.809784D-01		3.114244D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
4.604851D+00	1.810363D+00	-3.630773D-01	8.850849D+00	6.068910D+00
1.038598D+00	-3.833352D+00	1.999768D+00	4.097213D+00	4.554467D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
8.503194D+01	-1.261604D+01	4.587660D+01	3.494214D+02	4.947935D+00
8.730285D+01	-1.715683D+01	4.556652D+01	3.483555D+02	3.971558D+00

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	XFF	ZFF	MFF	TP
LFF	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR P	A90RA		
5.531723D-01	7.870753D-02	2.247200D+00		
5.563589D-01	5.609846D-02	1.792233D+00		

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NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	HMLB
	DELHPR	RHPR	WFF	RP
4.301568D+00	7.421407D+02	1.542978D+03	3.238387D-02	
3.065924D+00	7.008377D+02	1.543978D+03	5.667178D+02	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW 2.803108D+03
9.500000D+01 4.400000D+01	-1.209553D+01	-1.465952D+01	5.661694D-01	1.102407D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI -3.000000D+01 -2.135000D+01	PSI GAMMA 3.162116D+01 0.0	XR LW LR LW 2.009924D+03 8.048817D+03
THE0F THEOR 1.774612D+01 1.719267D+01	A1CF A1CR -1.579982D-01 5.039917D+06	B1TF B1TR -6.000000D-01 -6.000000D-01	B1CF B1CR -6.000000D-01 -6.000000D-01	DFW LFW 1.767094D+03 -3.024004D+03
THETAC 1.746940D+01	DELTAB -1.570069D+00	DELVIAS -1.731483D+00	DELTIAR 1.110830D+00	DELTAC 8.115811D+00
TF TR 1.133678D+04 8.265387D+03	HF HR 9.300353D+02 7.117732D+02	YF YR 5.651697D+02 4.725373D+02	MHF MHR 2.527667D+03 2.975009D+03	LHF LHR 2.119973D+03 2.408848D+03
QF QR 2.6152223D+04 2.013705D+04	LFZ DFX -3.327151D+03 1.094207D+03	YFY MF 6.278252D+03 -6.737600D+03	LF NF 3.524841D+03 -2.081828D+04	RHFF RHPF 1.214069D+03 1.012237D+03
YR 5.339140D+03	L'DE 6.641030D+00	SHP10T 2.326306D+03	WFF 2.327306D+03	NMLB 4.081973D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 8.0611770D-02 5.832602D-02	CPSF CPSR 6.714921D-03 5.598602D-03	AMTF AMTR 7.726833D-01 7.712251D-01	LANDAF LANDAR -8.539008D-02 -8.308032D-02
MUF MUR 2.1558116D-01 2.181569D-01	VF VR 7.996943D+00 5.785262D+00	DFFR DFRF 8.849592D-01 1.347527D-01	DFF 9.375570D-01	AOF AOR 4.566433D+00 3.329572D+00
A1F AIR 5.298564D+00 2.144275D+00	B1F B1R 8.122641D-01 5.840465D+00	BETA0F BETA0R -1.062374D+00 9.131623D-01	B180F B180R 9.588410D+00 5.231327D+00	A270F A270R 9.364237D+00 7.549819D+00
CAPVF CAPVR 1.607003D+02 1.626070D+02	ALPHAF ALPHAR -1.895623D+01 -1.894285D+01	BETAFW BETARW 3.287359D+02 3.291457D+02	ATIPF ATIPR 3.437030D+02 3.430487D+02	BPTPF BPTPR 5.360462D+00 6.221652D+00

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XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
6.916807D-01	7.815665D-02	1.615200D+00	
4.854791D-01	5.706317D-02	1.149557D+00	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHPTOT	NMLB
DELHPR	RIPR	WFF	RP
2.943405D+01	1.243503D+03	2.377230D+03	3.994567D-02
2.149018D+01	1.033727D+03	2.378230D+03	6.990492D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE	RC ALPHA 0.0 -4.249655D+00	GW ALFF 1.750000D+04 -6.349122D+00	RHO THETA 2.378000D-03 6.420034D-01	XF LW LF LW 1.676329D+03 1.025623D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI -2.000000D+01 -1.336496D+01	PSI GAMMA 2.036824D+01 0.0	XR LW LR LW 1.275066D+03 7.145693D+03
THEOF THEOR	A1CF A1CR -7.003101D-01 3.990241D+00	B1TF B1TR 3.000000D-01 3.000000D-01	B1CF B1CR 3.000000D-01 3.000000D-01	DFW LFFW 1.318709D+03 -4.639478D+02
1.583046D+01 1.506450D+01	1.544748D+01	DELTAB -1.544639D+00	DELTIAS -1.571083D+00	DELTAR 7.742790D-01 6.548434D+00
TF TR	HF HR 6.791261D+02 4.609945D+02	YF YR 2.186216D+02 3.833364D+02	MHF MHR 1.970639D+03 2.033811D+03	LHF LHR 1.129516D+03 2.283111D+03
QF QR	LFZ DFX -5.603918D+02 1.280704D+03	YFY MF 4.212980D+03 -8.684873D+03	LF NF 4.834149D+03 -1.303944D+04	RHFF RHPR 8.604021D+02 7.106113D+02
1.711651D+04 1.413663D+04	XR 2.766139D+03	L/DE 5.908401D+00	SHP10T 1.671013D+03	WFF NMLB 1.672013D+03 5.681773D-02
SIGOF SIGOR	CTSF CTSR 7.378755D-02 5.091779D-02	CPSF CPSR 4.758816D-03 3.930335D-03	AMTF AMTR 7.729802D-01 7.735398D-01	LAMDAF LANDAR -6.178710D-02 -6.201434D-02
5.841923D-02 5.841923D-02	MUF MUR 2.218349D-01 2.237283D-01	VF VR 7.368638D+00 5.099016D+00	DFFR DFRF 1.248282D+00 6.741762D-02	AOF AOR 4.009083D+00 2.738970D+00
AIF AIR	B1F B1R 5.976382D-01 4.625727D+00	BETAOF BETAOR 7.920134D-02 6.914526D-01	B180F B180R 7.40473D+00 4.343227D+00	A270F A270R 8.038856D+00 6.090796D+00
3.640833D+00 1.811149D+00	CAPVF CAPVR 1.302951D+01 -1.375862D+01	ALPHAF ALPHAR 3.395104D+02 3.396915D+02	ATIPF ATIPR 3.498912D+02 3.505615D+02	BPTPF BPTPR 3.689558D+00 4.967657D+00

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	XFF	ZFF	MFF	TP
LFF	0.0	YFF	NFF	0.0
0.0	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR _P	A90RA	
4.885085D-01	7.271292D-02		1.167616D+00	
4.844744D-01	5.066035D-02		6.814431D-01	

NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHFF	RHPF	SHPTOT	MMLB
	DELHPR	RHPR	WFF	RP
2.738393D+01	8.877860D+02	1.717476D+03	5.528154D-02	
1.907886D+01	7.296901D+02	1.718476D+03	9.674269D+02	

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STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB XDELS XDELR	XDELTAC XBETA XALPHA
XV	XQ		
XW	XR		
-4.882802D-02	-7.977222D-02	3.754786D-02	5.203414D-01
2.013317D-03	9.896151D-01	8.233503D-02	3.029301D-01
5.096604D-02	-1.724332D-01	-9.716560D-03	7.668512D+00
ZU	ZP	ZDELB ZDELS ZDELR	ZDELTAC ZBETA ZALPHA
ZV	ZQ		
ZW	ZR		
1.549311D-03	-2.195480D+00	6.124609D-01	-9.700548D+00
-5.320244D-02	-4.626952D+00	-1.167409D+00	-8.005008D+00
-9.169619D-01	3.140920D-01	2.873940D-01	-1.379690D+02
MU	MP	MDELB MDELS MDELR	MDELTAC MBETA MALPHA
MV	MQ		
MW	MR		
-2.801801D-03	8.322123D-02	4.844323D-01	-1.859421D-02
-8.877025D-04	-1.434281D+00	4.512360D-03	-1.335665D-02
-3.330112D-03	-2.556180D-01	1.945666D-01	-5.010593D-01
YU	YP	YDELB YDELS YDELR	YDELTAC YBETA YALPHA
YY	YQ		
YW	YR		
4.684523D-02	-7.560204D-01	2.773856D-01	8.094379D-02
-1.500321D-01	-1.021660D+00	8.992879D-01	-2.257431D+01
-5.108314D-02	-3.042178D-01	3.557031D-01	-7.686131D+00
LU	LP	LDELB LDELS LDELR	LDELTAC LBETA LALPHA
LV	LQ		
LW	LR		
3.657039D-03	-5.629074D-01	5.152307D-02	-1.063192D-02
-3.611664D-03	-2.310602D-01	3.472185D-01	-5.133297D-01
-1.156795D-02	-8.107749D-02	-1.802603D-02	-1.740550D+00
NU	NP	NDELB NDELS NDELR	NDELTAC NBETA NALPHA
NV	NQ		
NW	NR		
-1.699060D-03	3.573529D-02	3.379871D-02	3.214793D-02
-1.748347D-03	-1.017460D-01	1.402049D-02	-2.630619D-01
5.942935D-03	-3.352631D-02	1.151935D-01	8.941928D-01

LONGITUDINAL

	<i>U</i>	<i>MU</i>	<i>W</i>	<i>ALPHA</i>	<i>Q</i>	THETAC
CTF	-0.717D-05-0.505D-02	0.104D-03	0.156D-01-0	0.131D-02	0.547D-01	
CTR	0.280D-05 0.141D-02	0.383D-04	0.133D-01 0	0.240D-02	0.433D-01	
CHF	0.149D-05 0.105D-02	0.866D-05	0.130D-02-0	0.256D-03	0.549D-02	
CHR	0.163D-05 0.101D-02	0.596D-05	0.397D-03 0	0.108D-03	0.389D-02	
AIF	0.384D-03 0.271D+08	0.771D-03	0.116D+00-0	0.910D-01	0.687D+00	
AIR	0.499D-03 0.352D+08	0.658D-03	0.990D-01-0	0.401D-01	0.609D+00	
VFR	-0.544D-01-0.384D+02	0.181D+00	0.272D+02-0	0.238D+01	0.926D+02	
VRR	-0.247D-01-0.174D+02	0.152D+00	0.229D+02 0	0.419D+01	0.721D+02	
LF		0.342D+02	0.515D+04			
DF		0.481D+01	0.723D+03			
MF		0.147D+03	0.222D+05			

LATERAL-DIRECTIONAL

	<i>V</i>	<i>BETA</i>	<i>P</i>	<i>R</i>	AIC
CYF	-0.220D-05-0.331D-03	-0.121D-03-0	-0.583D-04	0	0.461D-02
CYR	0.142D-05 0.213D-03	0.529D-04	0.958D-05	0	0.272D-02
BIF	-0.116D-03-0.174D-01	-0.757D-01-0	0.157D-01	0	0.986D+00
BIR	0.149D-03 0.224D-01	0.546D-01	0.191D-02	0	0.949D+00
YF	-0.729D+02-0.110D+05				
LF	0.400D+02 0.602D+04				
NF	-0.174D+03-0.262D+05				
CTF			0.558D-02		
CTR			-0.713D-02		

FORCE = 0.241446D+07

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	QFU	QFV	QFH	QFP	QFQ	QFR	QFDEL A	QFDEL B	QFDEL S	QFDEL R	QFDEL TAC	QFBETA	QFALPHA	QFDL
-0.588D-02	-0.677D+00	-0.677D+00	-0.677D+00	-0.677D+00	-0.677D+00	-0.677D+00	-0.636D+00	-0.636D+00	-0.636D+00	-0.636D+00	-0.133D+01	-0.329D+01	-0.198D+01	-0.198D+01
-0.218D-02	-0.266D+01	-0.266D+01	-0.266D+01	-0.266D+01	-0.266D+01	-0.266D+01	-0.139D-01	-0.139D-01	-0.139D-01	-0.139D-01	-0.329D+01	-0.198D+01	-0.198D+01	-0.198D+01
-0.211D-02	-0.369D+01	-0.369D+01	-0.369D+01	-0.369D+01	-0.369D+01	-0.369D+01	-0.203D-01	-0.203D-01	-0.203D-01	-0.203D-01	-0.329D+01	-0.198D+01	-0.198D+01	-0.198D+01

QRU	QRP	QRDELB	QRDELTAC
QRV	QRQ	QRDELS	QRBETA
QRW	QRR	QRDELR	QRALPHA
-0.198D-02	-0.129D+01	-0.700D+00	0.121D+01
0.161D-02	0.282D+01	0.415D-01	0.212D+00
0.335D-01	0.220D+00	-0.115D+00	0.503D+00

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Volume 4

V	RC	GW	RHO THETA	XF LW
FE	ALPHA	ALFF	2.378000D-03	LF LW
9.500000D+01	0.0	1.750000D+04	1.152877D+03	
4.400000D+01	-3.180719D-01	-2.321407D+00	8.626087D-01	1.016737D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	-1.000000D+01	9.970788D+00	1.032228D+03
7.050000D+02	0.0	-6.558328D+00	0.0	7.160286D+03
THEOF	AICF	BITF	BICF	DFW
THEOR	AICR	BITR	BICR	LFW
1.487092D+01	-8.310822D-01	8.000000D-01	8.000000D-01	1.356918D+03
1.407633D+01	1.619929D+00	8.000000D-01	8.000000D-01	5.287751D+03
THETAC	DELTAB	DELTAS	DELTAR	DELTAC
1.447387D+01	-1.600864D+00	-7.618728D-01	1.965573D-01	5.793701D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.021627D+04	5.765606D+02	6.174232D+01	1.720927D+03	6.329199D+02
7.224815D+03	3.704503D+02	1.363682D+02	1.522901D+03	1.108714D+03
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
1.401261D+04	-2.245090D+00	2.106511D+03	2.413920D+03	7.043674D+02
1.197053D+04	1.356927D+03	-4.817781D+03	-5.047358D+03	6.017274D+02
XP	L'DE	SHPROT	WFF	NMLB
1.726811D+03	5.657746D+00	1.406095D+03	1.407095D+03	6.751500D-02
SIGOF	CTS F	CPSF	AMTF	LAMDAF
SIGOR	CTS R	CPSR	AMTR	LAIDAR
5.841923D-02	7.266448D-02	3.895800D-03	7.732341D-01	-4.866896D-02
5.841923D-02	5.130889D-02	3.328107D-03	7.748734D-01	-5.169239D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
2.243557D-01	7.277144D+00	1.561021D+00	8.931760D-01	3.881721D+00
2.257899D-01	5.101740D+00	1.779931D-02		2.653816D+00
A1F	B1F	BETA0F	B180F	A270F
A1R	B1R	BETA0R	B180R	A270R
2.932619D+00	5.192454D-01	6.039176D-01	6.515436D+00	7.449003D+00
2.120120D+00	2.205592D+00	3.008792D-01	4.5557915D+00	5.546505D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
1.604645D+02	-9.699221D+00	3.498546D+02	3.531145D+02	2.978233D+00
1.622380D+02	-1.113851D+01	3.499197D+02	3.548020D+02	3.059337D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.871028D-01	7.208297D-02	9.4227058D-01		
4.859000D-01	5.076381D-02	5.104887D-01		

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NON UNIFORM DOWNMASH POWER CORRECTIONS

	RHPF	SHPTOT	NMLB
	RHPR	WFF	RP
2.714669D+01	7.315140D+02	1.452359D+03	6.536581D-02
1.911782D+01	6.208452D+02	1.453359D+03	1.163902D+03
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE			

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
9.5P0000D+01 4.400000D+01	1.053541D+00	-9.865874D-01	1.098939D+00	9.597413D+02 1.018497D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0	PSI GAMMA -6.169134D-03 0.0	XR LW LR LW 9.514881D+02 7.178333D+03
7.050000D+02 7.050000D+02		-3.460918D-01		
THE0F THE0R	A1CF A1CR -6.204238D-01 -6.037609D-01	B1TF B1TR 1.000000D+00 1.000000D+00	B1CF B1CR 1.000000D+00 1.000000D+00	DFW LFFW 1.351827D+03 8.590344D+01
1.451354D+01 1.376027D+01				
THETAC	DELTAB -1.664104D+00	DELTIAS 1.693049D-03	DELTAR -2.500480D-01	DELTAC 5.532485D+00
TF TR	HF HR 5.466895D+02 3.313924D+02	YF YR -5.294863D+01 -4.762290D+01	MHF MHR 1.697390D+03 1.256080D+03	LHF LHR 3.282396D+02 9.689137D+01
QF QR	LFZ DFX 1.107446D+02 1.350019D+03	YFY MF 1.142424D+02 -3.828986D+03	LF NF 3.413854D+02 1.324592D+02	RHFF RHPR 6.479176D+02 5.691093D+02
XR	L/DE 5.582062D+00	SHPTOT 1.317027D+03	WFF 1.318027D+03	NMLB 7.207744D-02
1.379560D+03				
SIG0F SIG0R	CTSF CTSFR 7.279987D-02 5.132251D-02	CPSF CPSR 3.583581D-03 3.147699D-03	AMTF AMTR 7.734002D-01 7.743553D-01	LAMDAF LAMDAR -4.377557D-02 -4.787388D-02
5.841923D-02 5.841923D-02				
MUF MUR	YF VR 7.294105D+00 5.114477D+00	DFFR DFFR 1.647109D+00 6.120917D-01	DFF 9.207741D-01	A0F A0R 3.818349D+00 2.624672D+00
2.251191D-01 2.263630D-01				
A1F A1R	B1F B1R 5.329555D-01 1.573183D-01	BETA0F BETA0R 8.082975D-01 3.8662858D-01	B180F B180R 6.341488D+00 4.485058D+00	A270F A270R 7.384760D+00 5.408054D+00
2.757040D+00 2.039872D+00				
CAPVF CAPVR	ALPHAF ALPHAR -8.446459D+00 -1.017306D+01	BETAFW BETARW 3.600 00D+02 3.60 J00D+02	ATIPF ATIPR -5.689419D+00 -3.906588D+00	BPTPF BPTPR 2.808080D+00 2.045929D+00
1.604493D+02 1.621349D+02				

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PAGE 4

	XFF	ZFF	MFF	TP
RMTF	LFF	YFF	NFF	
4.8666894D-01	0.0	0.0	0.0	
6.871035D-01	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR	A90RA		
4.8666894D-01	7.220773D-02	8.973861D-01		
6.871035D-01	5.089460D-02	5.227333D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
2.719367D+01	6.751113D+02	1.363388D+03	6.962831D-02	
1.916707D+01	5.882764D+02	1.364388D+03	1.218495D+03	
STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE				

V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW 1.106681D+03
9.500000D+01 4.400000D+01	-1.473800D-01	-2.150730D+00	8.487549D-01	1.016929D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 1.000000D+01 5.388172D+00	PSI GAMMA -9.969182D+00 0.0	XR LW LR LW 1.033937D+03 7.168636D+03
7.050000D+02 7.050000D+02				
THE0F THEOR	A1CF A1CR -7.728342D-02 -2.705737D+00	B1TF B1TR 8.000000D-01 8.000000D-01	B1CF B1CR 8.000000D-01 8.000000D-01	DFW LFW 1.359033D+03 1.131615D+01
1.476716D+01 1.409223D+01				
THETAC	DELTAB -1.694114D+00	DELTIAS 8.914721D-01	DELTIAR -6.434531D-01	DELTAC 5.759453D+00
1.442969D+01				
TF TR	HF HR 5.958101D+02 3.5271886D+02	YF YR -8.638494D+01 -2.374569D+02	MHF MHR 1.955119D+03 1.292725D+03	LHF LHR 1.962268D+02 -9.415024D+02
1.023188D+04 7.234222D+03				
QF QR	LFZ DFX 7.820320D+00 1.359058D+03	YFY MF -1.794510D+03 -4.857605D+03	LF NF -2.171048D+03 4.010511D+03	RHPF RHPR 6.875778D+02 6.069542D+02
1.367841D+04 1.207452D+04				
XR 1.677434D+03	L/DE 5.639984D+00	SHPTOT 1.394532D+03	WFF 1.395532D+03	NMLB 6.807440D-02
SIGOF SIGOR	CTS CTS 7.231038D-02 5.133311D-02	CPSF CPSR 3.802938D-03 3.357016D-03	AMTF AMTR 7.735918D-01 7.725607D-01	LAMDAF LAMDAR -4.802972D-02 -5.114825D-02
5.841923D-02 5.841923D-02				
MUF MUR	VF VR 7.2900991D+00 5.110466D+00	DFFR DFFR 1.548525D+00 1.780544D-02	UFF 8.915176D-01	AOF AOR 3.858046D+00 2.658317D+00
2.244668D-01 2.258727D-01				
A1F A1R	B1F B1R 8.728135D-01 -1.872598D+00	BETA0F BETA0R 4.224312D-01 6.365877D-01	B180F B180R 6.644124D+00 4.253389D+00	A270F A270R 7.412900D+00 5.414218D+00
3.070353D+00 1.799526D+00				
CAPVF CAPVR	ALPHAF ALPHAR -9.531336D+00 -1.099856D+01	BETAFW BETARW 1.014046D+01 1.007668D+01	ATIPF ATIPR 3.546521D+02 3.192006D+00	BPTPF BPTPR 2.597098D+00
1.604643D+02 1.622199D+02				

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	XFF	ZFF	MFF	TP
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
4.867152D-01	7.223834D-02	9.421994D-01		
4.882537D-01	5.082302D-02	5.870510D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHWF	RHPF	SHPTOT	NMLB
DELHPR	RHPR	WFF	RP
2.720520D+01	7.147830D+02	1.440877D+03	6.588633D-02
1.916012D+01	6.260944D+02	1.441877D+03	1.153011D+03

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW 1.536692D+03
9.500000D+01 4.400000D+01	-3.575931D+00	-5.663153D+00	9.312254D-01	1.027176D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 2.000000D+01 1.235430D+01	PSI GAMMA -2.024711D+01 0.0	XR LW LR LW 1.248792D+03 7.172320D+03
THEOF THEOR 1.545953D+01 1.503066D+01	AICF AICR -8.581933D-01 -5.5644721D+00	B1TF B1TR 3.000000D-01 3.000000D-01	B1CF B1CR 3.000000D-01 3.000000D-01	DFW LFFW 1.236436D+03 -4.325936D+02
THETAC 1.524510D+01	DELTAB -1.808398D+00	DELTAS 1.547281D+00	DELTAR -1.385476D+00	DELTAC 6.391547D+00
TF TR 1.036214D+04 7.267975D+03	HF HR 7.046239D+02 6.221285D+02	YF YR -3.746950D+02 -5.176105D+02	MHF MHR 2.390834D+03 1.562003D+03	LHF LHR -7.521479D+02 -2.295954D+03
QF QR 1.590950D+04 1.418431D+04	LFZ DFX -5.088694D+02 1.207047D+03	YFY MF -3.888262D+03 -7.956886D+03	LF NF -3.779834D+03 1.325147D+04	RHPP RHPR 7.997290D+02 7.130080D+02
XR 2.576995D+03	L/DE 5.929663D+00	SHPOT 1.612737D+03	WFF 1.613737D+03	NMLB 5.886957D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.351674D-02 5.1111919D-02	CPSF CPSR 4.423238D-03 3.943591D-03	AMTF AMTR 7.733902D-01 7.683820D-01	LAMDAF LAMDAR -5.933266D-02 -5.984518D-02
MUF MUR 2.223825D-01 2.241757D-01	VF VR 7.363009D+00 5.1119201D+00	DFFR DFRF 1.275657D+00 6.780200D-02	DFF 8.843737D-01	AOF AOF 3.968344D+00 2.742718D+00
A1F AIR 4.066740D+00 1.0866608D+00	B1F B1R 2.131281D-01 -4.378583D+00	BETA0F BETA0R -3.839835D-01 1.450482D+00	B180F B180R 7.789894D+00 3.648698D+00	A270F A270R 7.847684D+00 5.789783D+00
CAPVF CAPVR 1.605235D+02 1.623335D+02	ALPHAF ALPHAR -1.239866D+01 -1.320095D+01	BETAFW BETARW 2.045206D+01 2.028124D+01	ATIPF ATIPR 3.509908D+02 3.505107D+02	BPTPF BPTPR 4.072321D+00 4.511397D+00

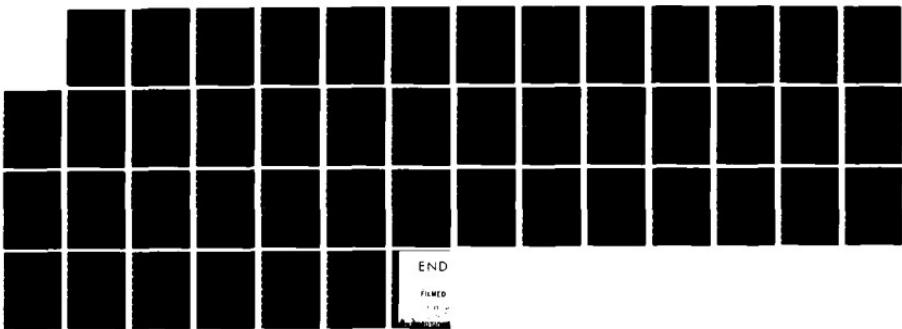
AD-A134 323

HELICOPTER FLYING QUALITIES CHARACTERISTICS-CH-46E
VOLUME 4(U) BOEING VERTOL CO PHILADELPHIA PA 03 OCT 83
NADC-81118-68-VOL-4

6/6

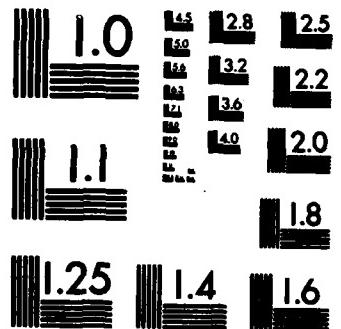
UNCLASSIFIED

F/G 1/2 NL



END

FILMED



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTR _P	A90RA		
4.885978D+01	7.282305D-02	1.102947D+00		
4.896995D+01	5.084913D-02	8.255661D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	HFF	RP
2.742540D+01	8.271544D+02	1.659312D+03	5.721815D+02	
1.914995D+01	7.321579D+02	1.660312D+03	1.001316D+03	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.133350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XN	XR	XDELR	XALPHA
-4.831388D-02	-2.720592D-01	-2.498084D-02	5.633747D-01
-2.631235D-03	-1.137306D+00	-1.072828D-01	3.660721D-01
5.119482D-02	-6.849134D-02	-2.402940D-02	7.708304D+00
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
1.031482D-02	-2.251827D-01	6.473619D-01	-9.708123D+00
2.753562D-02	-4.045601D+00	1.192790D+00	4.146850D+00
-9.206568D-01	-8.422211D-01	-1.695531D-01	-1.3866236D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-2.548123D-03	1.782188D-01	4.91891L-01	-2.036263D-02
-1.895478D-03	-1.266755D+00	-1.415482D-02	2.854029D-01
-3.595101D-03	-3.280208D-01	-1.969359D-01	-5.413158D-01
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YU	YR	YDELR	YALPHA
-3.350885D-02	-9.858956D-01	-3.206177D-01	-7.840987D-02
-1.643963D-01	5.395462D-01	9.091351D-01	-2.475321D+01
4.860681D-02	1.602331D-01	3.816261D-01	7.318747D+00
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.977298D-03	-4.442187D-01	-1.185096D-01	-5.440714D-03
-4.788474D-03	2.549089D-01	3.444446D-01	-7.210026D-01
1.358616D-02	1.038163D-01	-1.682954D-02	2.045674D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
1.016629D-03	-1.371003D-01	4.995655D-02	-3.415014D-02
-1.162157D-04	-1.716145D-01	1.709574D-02	-1.749864D-02
-9.679036D-03	-8.571013D-02	1.086249D-01	-1.457376D+00

LONGITUDINAL

	U	MU	W	ALPHA	Theta	THETAC
CTF	-0.748D-05	-0.522D-02	0.184D-03	0.157D-01	-0.113D-02	0.547D-01
CTR	-0.212D-05	-0.150D-02	0.891D-04	0.134D-01	0.209D-02	0.435D-01
CHF	-0.137D-05	-0.964D-03	0.902D-05	0.136D-02	-0.256D-03	0.585D-02
CHR	-0.143D-05	-0.101D-02	0.693D-05	0.742D-03	0.667D-04	0.335D-02
AIF	-0.313D-03	-0.221D+00	0.754D-03	0.114D+00	-0.632D-01	0.687D+00
AIR	-0.559D-03	-0.388D+00	0.666D-03	0.190D+00	-0.685D-01	0.698D+00
VFR	-0.548D-01	-0.381D+02	0.181D+00	0.273D+02	-0.210D+01	0.927D+02
VRR	-0.248D-01	-0.175D+02	0.154D+00	0.231D+02	0.367D+01	0.724D+02
LF			0.346D+02	0.520D+04		
DF			0.652D+01	0.982D+03		
MF			0.162D+03	0.244D+05		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.231D-05	-0.348D-03	-0.158D-03	-0.298D-04	0.468D-02
CYR	-0.161D-05	0.243D-03	0.646D-04	-0.673D-04	0.265D-02
DIF	-0.710D-04	0.107D-01	-0.506D-01	-0.894D-02	0.962D+01
BIR	0.258D-03	0.388D-01	0.790D-01	0.347D-03	0.993D+00
YF	-0.799D+02	-0.120D+05			
LF	0.216D+02	0.325D+04			
NF	-0.289D+00	-0.435D+02			
CTF				-0.698D-02	
CTR				0.698D-02	

FORCE = 0.241446D+07

	X	Z	H	Y	L	N	CTF	CTR	CHF	CHR	AIF	AIR	VFR	VRR	QF	QR	QFU	QFY	QFM	QFR	QFDELTA	QFBETA	QFALPHA	QRDELTA	QRDBETA	QRALPHA	
OMEGAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
OMEGAFAF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BICR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
BICF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
X	-0.199D-02	0.198D+00	0.250D-02	0.259D+01	0.358D-01	0.816D+00	0.124D+	-0.124D+	0.288D-01	0.102D+00	0.539D+	-0.376D+	0.124D+	-0.124D+	0.288D-01	0.102D+00	0.539D+	0.124D+	-0.124D+	0.288D-01	0.102D+00	0.539D+	0.124D+	-0.124D+	0.288D-01	0.102D+00	0.539D+

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V FE	RC ALPHA 0.0	GW ALFF 1.750000D+04	RHO THETA 2.378000D-03	XF LW LF LW
9.500000D+01 4.400000D+01	-1.057964D+01	-1.302982D+01	1.507301D+00	2.471464D+03 1.094231D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 3.000000D+01 2.038944D+01	PSI GAMMA -3.121724D+01 0.0	XR LW LR LW 1.797121D+03 7.574539D+03
THEOF THEOR	A1CF A1CR -1.420710D+00 -8.306096D+00	B1TF B1TR -6.000000D-01 -6.000000D-01	B1CF B1CR -6.000000D-01 -6.000000D-01	DFW LFW 1.250086D+03 -2.373362D+03
1.698310D+01 1.709322D+01	-1.420710D+00 -8.306096D+00	-6.000000D-01 -6.000000D-01	-6.000000D-01 -6.000000D-01	-2.373362D+03
THETAC	DELTAB -2.089297D+00	DELTIAS 2.284303D+00	DELTAR -2.146260D+00	DELTAC 7.781518D+00
1.703816D+01				
TF TR	HF HR 9.579164D+02 5.960649D+02	YF YR -7.043902D+02 -8.122287D+02	MHF MHR 3.160786D+03 2.201049D+03	LHF LHR -1.765755D+03 -3.574912D+03
QF QR	LFZ DFX -2.562535D+03 7.930805D+02	YFY MF -6.197580D+03 -1.370540D+04	LF NF -4.978088D+03 2.360582D+04	RHFF RHPR 1.071248D+03 9.886231D+02
1.9666729D+04 481				
XR	L/DE 6.505610D+00	SHPTOT 2.159871D+03	WFF 2.160871D+03	NMLB 4.396376D-02
SIGOF SIGOR	CTSF CTSFR 7.888550D-02 5.535897D-02	CPSF CPSR 5.924986D-03 5.4667996D-03	AMTF AMTR 7.738137D-01 7.606583D-01	LANDAF LANDAR -8.019585D-02 -7.796910D-02
5.841923D-02 5.841923D-02				
MUF MUR	VF VR 7.885748D+00 5.446011D+00	DFFR DFFR 9.353539D-01 1.366485D-01	DFF 9.185854D-01	A0F A0R 4.411703D+00 3.182578D+00
2.172055D-01 2.195957D-01				
A1F AIR	B1F B1R 2.029217D-01 -6.825378D+00	BETAOF BETAOR -1.748053D+00 2.825211D+00	B180F B180R 1.003192D+01 3.077103D+00	A270F A270R 4.411703D+00 3.182578D+00
5.881639D+00 9.8840706D-02				
CAPVF CAPVR	ALPHAF ALPHAR -1.762598D+01 -1.773840D+01	BETAFW BETARN 3.114311D+01 3.076700D+01	ATIPF ATIPR 3.4580200D+02 3.425188D+02	BPTPF BPTPR 5.885138D+00 6.826088D+00
1.606729D+02 1.625427D+02				

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RMT F		CTFP	A90F	
RMT R		CTR P	A90RA	
4.916172D+01	7.757695D-02	1.459721D+00		
4.932604D+01	5.370071D-02	1.310789D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPP	SHPTOT	WILD
	DELHPR	RHPR	WFF	RP
2.921574D+01	1.100463D+03	2.209310D+03	4.298839D-02	
2.022387D+01	1.068347D+03	2.210310D+03	7.521568D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 1.400000D+02 4.400000D+01	RC ALPHA 0. -7.445838D+00	GW ALFF 1.750000D+04 -8.492979D+00	RHO THETA 2.378000D-03 -6.697140D+00	XF LW LF LW 2.357938D+03 1.097062D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0. 0.	BETAF PHI -1.800000D+01 -1.465883D+01	PSI GAMMA 1.147389D+01 0. 0.	XR LW LR LW 1.654420D+03 7.459483D+03
THEOF THEOR 1.967979D+01 1.868326D+01	AICF AICR -1.897388D+00 4.280720D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFFW 3.132065D+03 -1.536655D+03
THEIAC 1.918152D+01	DELTAB -2.193635D+00	DELTAS -2.056774D+00	DELTAU 5.912061D-01	DELTAC 9.443041D+00
TF TR 1.118549D+04 7.628651D+03	HF HR 8.939566D+02 4.297404D+02	YF YR 2.319414D+01 5.219865D+02	MHF MHR 2.690377D+03 1.650537D+03	LHF LHR 8.864511D+02 2.883291D+03
QF QR 2.990269D+04 2.231016D+04	LFZ DFX -1.929578D+03 2.906522D+03	YFY MF 4.913560D+03 -1.371895D+04	LF NF 9.167168D+03 -1.718745D+04	RHPP RHPR 1.503130D+03 1.121473D+03
XR 3.891992D+03	L/DE 7.155734D+00	SHPTOT 2.724603D+03	WFF 2.725603D+03	NMLB 5.136478D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.863159D-02 5.437699D-02	CPSF CPSR 8.313693D-03 6.202779D-03	AMTF AMTR 8.385157D-01 8.388053D-01	LAMDAF LAMDAR -1.040625D-01 -9.677550D-02
MUF MUR 3.212713D-01 3.251081D-01	VF VR 5.413641D+00 3.674795D+00	DFFR DFRF 1.190884D+00 1.695700D-02	DFF DFF 9.470908D-01 8.388053D-01	AOF AOR 6.348967D+00 3.092869D+00
A1F AIR 4.558287D+00 1.805514D+00	B1F B1R 6.202357D-01 5.088453D+00	BETAOF BETAOR -8.626931D-01 6.850076D-01	B180F B180R 8.316992D+00 6.404490D+00	A270F A270R 1.233340D+01 9.552138D+00
CAPVF CAPVR 2.364695D+02 2.381179D+02	ALPHAF ALPHAR -1.669959D+01 -1.572928D+01	BETAFW BEIARW 3.496420D+02 3.497656D+02	ATIPF ATIPR 3.476124D+02 3.473597D+02	BPTPF BPTPR 4.600290D+00 5.399281D+00

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	XFF	ZPF	WFF	TP
LFF	YFF	WFF	WFF	WFF
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
RHTF	CTFP	A98F	A98RA	
RHTR	CTR P			
4.253745D-01	7.777769D-02	5.863734D-01		
4.203233D-01	5.288501D-02	3.773239D-01		

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPP	SIMP TOT	WMLB
DELHPR	RHPR	WFF	RP
7.678371D+01	1.579914D+03	2.853596D+03	4.904372D-02
5.220915D+01	1.173682D+03	2.854596D+03	8.582651D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.755656D-02	-1.790441D-01	9.028067D-03	5.066828D-01
-7.038196D-03	-1.794107D-01	6.036997D-02	1.625711D+00
3.174695D-02	-1.852106D-01	-1.468210D-02	1.195272D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
4.855639D-02	-1.555711D+00	4.945152D-01	-1.129878D+01
-2.420396D-02	-5.713777D+00	-9.049025D-01	-5.590729D+00
-1.043833D+00	4.601297D-01	1.955240D-01	-2.411088D+02
MU	NP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.083192D-03	2.642090D-01	5.293404D-01	-5.144193D-02
-1.699503D-03	-1.429521D+00	-1.180966D-03	-3.925581D-01
-4.520554D-03	-3.174784D-01	1.415963D-01	-1.044176D+00
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
3.502859D-02	3.288859D-01	2.266335D-01	-2.768909D-01
-2.315192D-01	-8.416330D-01	9.439129D-01	-5.347724D+01
-6.292447D-02	-2.283108D-01	3.343981D-01	-1.453455D+01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
3.952106D-03	-2.480689D-01	1.440421D-02	-1.393339D-01
-1.324608D-02	-1.490384D-01	3.566620D-01	-3.059632D+00
-1.618669D-02	-2.479612D-02	-4.099068D-02	-3.738866D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.184445D-04	2.221157D-02	6.453787D-02	5.532066D-02
5.147613D-03	-1.571411D-01	1.709505D-02	1.189017D+00
5.054530D-03	-6.724413D-02	1.321861D-01	1.167516D+00

LONGITUDINAL	Ψ	$\Phi\mu$	$\Phi\nu$	$\Phi\lambda$	α	θ	θ_{TAC}
CTF	-0.821D-05	-0.579D-02	0.118D-03	0.254D-01	-0.119D-02	0.616D-01	
CTR	-0.231D-05	-0.163D-02	0.966D-04	0.224D-01	0.226D-02	0.535D-01	
CHF	-0.164D-05	-0.116D-02	0.162D-04	0.237D-02	-0.113D-03	0.752D-02	
CHR	-0.149D-05	-0.987D-03	0.486D-05	0.113D-02	-0.139D-03	0.376D-02	
AIF	-0.405D-05	-0.286D+00	0.119D-02	0.274D+00	-0.786D-01	0.197D+01	
AIR	-0.384D-03	-0.355D+00	0.185D-02	0.243D+00	-0.598D-01	0.975D+00	
VFR	-0.313D-01	-0.221D+02	0.131D+00	0.392D+02	-0.137D+01	0.716D+02	
VRV	-0.174D-01	-0.123D+02	0.114D+00	0.263D+02	-0.266D+01	0.618D+02	
NP			0.683D+02	0.158D+05			
			0.169D+01	0.946D+03			
			0.154D+03	0.357D+05			

LATERAL-DIRECTIONAL

	ν	$\beta\eta$	$\beta\mu$	$\beta\nu$	α	β	γ	α_{IC}
CYF	-0.297D-05	-0.686D-03	0.594D-04	-0.258D-04	0.504D-02			
CYR	-0.318D-05	-0.717D-03	0.178D-04	-0.132D-03	0.292D-02			
BIF	-0.133D-03	-0.367D-01	0.562D-01	-0.128D-01	0.992D+00			
BIR	-0.353D-03	-0.817D-01	0.718D-01	-0.895D-03	0.106D+01			
YF	-0.122D+03	-0.281D+05						
LF	-0.853D+02	-0.197D+05						
NF	0.746D+03	0.173D+06						
CTF					-0.514D-02			
CTR					0.459D-02			

FORCE = 0.241446D+07

V FE 1.400000D+02 4.400000D+01	RC ALPHA 0.0 -6.043014D+00	GW ALFF 1.750000D+04 -7.069602D+00	RHO THETA 2.378000D-03 -4.641245D+00	XF LW LF LW 2.085720D+03 1.090530D+03
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI -7.000000D+00 -1.085304D+01	PSI GAMMA 7.973316D+00 0.0	XR LW LR LW 1.515834D+03 7.371264D+03
THEOF THEOR 1.913467D+01 1.790933D+01	AICF AICR -2.196070D+00 1.987207D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFWN 3.041133D+03 -1.123884D+03
THETAC 1.852230D+01	DELTAB -2.030718D+00	DELTIAS -1.362108D+00	DELTAR 3.496261D-02	DELTAC 8.932014D+00
TF TR 1.106712D+04 7.515804D+03	HF HR 8.914619D+02 3.820802D+02	YF YR -1.2179463D+02 2.439307D+02	MHF MHR 2.674997D+03 1.384122D+03	LHF LHR 4.550994D+02 1.610774D+03
QF QR 2.778660D+04 2.012921D+04	LFZ DFX -1.437794D+03 2.905917D+03	YFY MF 3.652758D+03 -1.370301D+04	LF NF 6.320924D+03 -1.008091D+04	RHPF RHPR 1.396759D+03 1.011843D+03
XR 3.430666D+03	L/DE 7.278060D+00	SHP10T 2.508602D+03	WFF 2.509602D+03	HMLB 5.578574D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSFR 7.887219D-02 5.296093D-02	CPSF CPSR 7.725366D-03 5.596422D-03	AMTF AMTR 8.385964D-01 8.398026D-01	LAMDAF LAMIDAR -9.686084D-02 -8.986081D-02
MUF MUR 3.253104D-01 3.268683D-01	VF VR 5.363235D+00 3.624149D+00	DFFR DFRF 1.260084D+00 8.448650D-03	DFF 9.429538D-01	A0F A0R 4.345165D+00 2.930162D+00
A1F A1R 4.405851D+00 1.905098D+00	B1F B1R 1.864711D-01 2.875496D+00	BETAOF BETAOR -7.243812D-01 4.757835D-01	B180F B180R 8.166979D+00 4.377266D+00	A270F A270R 1.213415D+01 9.007874D+00
CAPVF CAPVR 2.364598D+02 2.380567D+02	ALPHAF ALPHAR -1.543275D+01 -1.453060D+01	BETAFW BEARM 3.527770D+02 3.528560D+02	ATIPF ATIPR 3.488628D+02 3.488621D+02	BPTPF BPTPR 4.409795D+00 3.449330D+00

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	XFF	ZFF	MFF	TP
LFF	0.0	YFF	NFF	
	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR	A90RA	
6.244359D-01	7.731460D-02		5.505861D-01	
4.2215386D-01	5.225957D-02		2.951627D-01	

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NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHFF	RHPF	SHTOT	NMLB
	DELHPR	RHPR	WFF	RP
7.632654D+01	1.473086D+03	2.636520D+03	5.308016D-02	
5.159171D+01	1.063434D+03	2.637520D+03	9.289028D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V	RC	GM	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
1.400000D+02	0.0	1.750000D+04	-2.378000D-03	1.927345D+03
4.400000D+01	-5.152099D+00	-6.170965D+00	-4.637518D+00	1.083628D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	-4.000000D+00	4.533598D+00	1.430126D+03
7.050000D+02	0.0	-6.432975D+00	0.0	7.334797D+03
THEOF	AICF	B1TF	B1CF	DFFN
THEOR	AICR	B1TR	B1CR	LFFW
1.867992D+01	-2.131574D+00	2.800000D+00	2.800000D+00	2.999346D+03
1.745903D+01	-2.956279D-01	4.000000D+00	4.000000D+00	-3.183676D+02
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.806947D+01	-2.049380D+00	-5.909231D-01	-4.964342D-01	8.588987D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.097192D+04	8.698829D+02	-1.919619D+02	2.620575D+03	1.095983D+02
7.464495D+03	3.547253D+02	-2.530911D+01	1.210549D+03	3.089170D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
2.580044D+04	-1.084402D+03	2.127634D+03	2.902167D+03	1.296928D+03
1.906438D+04	2.913738D+03	-1.284974D+04	-3.266759D+03	9.583166D+02
XR	L/DE	SHPTOT	WFF	NMLB
3.158299D+03	7.542723D+06	2.355237D+03	2.356237D+03	5.941677D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSFR	CPSRF	AMTR	LAMDAAR
5.841923D-02	7.742471D-02	7.173164D-03	8.385162D-01	-9.220040D-02
5.841923D-02	5.272350D-02	5.300373D-03	8.395667D-01	-8.537886D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.245388D-01	5.325463D+00	1.301415D+00	9.446079D-01	4.293098D+00
3.279136D-01	3.606872D+00	2.786122D-03		2.870915D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
4.260614D+00	-1.283040D-01	-6.488722D-01	7.983309D+00	1.181092D+01
1.925287D+00	6.400109D-01	4.169900D-01	4.358503D+00	8.702209D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.364541D+02	-1.461827D+01	3.558826D+02	3.496085D+02	4.262546D+00
2.380035D+02	-1.375375D+01	3.559251D+02	3.497132D+02	2.028878D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
RMTF	CTFP	A90F		
RMTR	CTRP	A90RA		
4.239572D-01	7.682527D-02	5.582205D-01		
4.235105D-01	5.200104D-02	2.657118D-01		

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NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHFF	RHPF	SHPTOT	HMLB
DELHPR	RHPR	WFF	RP
7.586347D+01	1.372764D+03	2.482617D+03	5.637394D-02
5.133647D+01	1.009653D+03	2.483417D+03	9.865440D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC ALPHA 0.0 -4.654071D+00	GN ALFF 1.750000D+04 -5.665397D+00	RHO THETA 2.378000D-03 -4.633928D+00	XF LW LF LW 1.832983D+03 1.083607D+04
VTF VTR	CGF CGL 3.809958D+01 0.0	BETAF PHI 0.0 -9.739055D-01	PSI GAMMA 7.744074D-02 0.0	XR LW LR LW 1.398740D+03 7.418053D+03
THE0F THE0R	A1CF A1CR -1.626318D+00 -1.665459D+00	B1TF B1TR 2.800000D+00 4.000000D+00	B1CF B1CR 2.800000D+00 4.000000D+00	DFW LFW 3.003843D+03 -7.949971D+02
1.843516D+01 1.731866D+01	-1.665459D+00			
THE1AC 1.787691D+01	DELTAB -2.131067D+00	DELTAS 2.546934D-02	DELTAR -6.963381D-01	DELTAC 8.431714D+00
TF TR	HF HR 8.724102D+02 3.477252D+02	YF YR -1.958261D+02 -1.508957D+02	MHF MHR 2.666822D+03 1.125288D+03	LHF LHR 1.221057D+02 -2.695063D+02
QF QR	LFZ DFX -1.036106D+03 2.929433D+03	YFY MF 3.473176D+02 -1.105815D+04	LF NF 9.796502D+02 -2.593265D+02	RHPF RHPR 1.250268D+03 9.468749D+02
2.487235D+04 1.883677D+04				
XR 3.015677D+03	L/DE 7.518445D+00	SHPTOT 2.297143D+03	WFF 2.298143D+03	NMLB 6.091876D-02
SIG0F SIG0R	CTSF CTS0R 7.762523D-02 5.3336331D-02	CPSF CPS0R 6.915132D-03 5.237090D-03	AMIF ANIR 8.391549D-01 8.390249D-01	LAMDAF LAMDAR -8.956195D-02 -8.292821D-02
5.841923D-02 5.841923D-02				
MUF MUR	VF VR 5.321604D+00 3.643105D+00	DFFR DFRF 1.326201D+00 1.530955D-38	DFF DFF 9.541740D-01	A0F A0R 4.286222D+00 2.892154D+00
3.252104D-01 3.284782D-01				
A1F AIR	B1F B1R 1.982579D-01 -4.375895D-01	BETA0F BETA0R -7.287466D-01 5.386475D-01	B180F B180R 8.052114D+00 4.285781D+00	A270F A270R 1.174656D+01 8.662170D+00
4.334131D+00 1.827388D+00				
CAPVF CAPVR	ALPHAF ALPHAR -1.415407D+01 -1.331845D+01	BETAFW BETARW 9.609768D-18 9.514165D-18	ATIPF ATIPR 3.501801D+02 3.501733D+02	BTPPF BTPPR 4.338663D+00 1.879051D+00
2.364516D+02 2.379776D+02				

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RNTR	0.0	0.0	0.0	0.0
4.231903D-01		CTFP	A90F	
4.238069D-01		CTR	A90RA	
		7.682380D-02	5.233886D-01	
		5.259129D-02	2.666361D-01	

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NON UNIFORM DOWNHILL POWER CORRECTIONS

	DELHPPF	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
7.584201D+01	1.326110D+03	2.424904D+03	5.771045D-02	
5.191918D+01	9.987941D+02	2.425904D+03	1.009933D+03	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LFLW
1.46666D+02	0.0	1.750000D+04	2.378000D-03	1.863495D+03
4.46666D+01	-4.874187D+00	-5.898397D+00	-4.545983D+00	1.066428D+04
VTF	C6F	BETAF	PSI	XRLW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	4.000000D+00	-4.333849D+00	1.430874D+03
7.05000D+02	0.0	4.209267D+00	0.0	7.458836D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LF FW
1.849458D+01	-1.025081D+00	2.800000D+00	2.800000D+00	2.986295D+03
1.748791D+01	-3.001904D+00	4.000000D+00	4.000000D+00	-9.082477D+02
THETAC	DELTAB	DEL TAS	DELTAR	DELTAC
1.799125D+01	-2.217003D+00	6.670886D-01	-8.871786D-01	8.520348D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.898731D+04	8.855895D+02	-1.801262D+02	2.764861D+03	1.755921D+02
7.5866803D+03	3.493569D+02	-2.720782D+02	1.889484D+03	-8.576793D+02
QF	LFZ	YFY	LF	RHPF
QR	DFX	MF	NF	RHPR
2.512509D+04	-1.158703D+03	-1.366153D+03	-9.314892D+02	1.262972D+03
1.929986D+04	2.898323D+03	-1.075204D+04	1.897587D+03	9.701532D+02
XR	L/DE	SHP10T	WFF	NMLB
3.088976D+03	7.485002D+00	2.333126D+03	2.334126D+03	5.997963D-02
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSFR	CPSRF	AMTR	LAMDAR
5.841923D-02	7.787545D-02	6.985401D-03	8.395589D-01	-9.064462D-02
5.841923D-02	5.358438D-02	5.365841D-03	8.378664D-01	-8.398026D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.249445D-01	5.336197D+00	1.312841D+00	9.418139D-01	4.306341D+00
3.282506D-01	3.665087D+00	2.792102D-03		2.920744D+00
A1F	B1F	BETA0F	B180F	A270F
AIR	B1R	BETA0R	B180R	A270R
4.460408D+00	6.073070D-01	-8.386321D-01	8.195679D+00	1.181862D+01
1.6665853D+00	-1.514842D+00	7.260381D-01	4.152428D+00	8.720180D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.364541D+02	-1.434109D+01	4.113946D+00	3.500862D+02	4.501562D+00
2.379884D+02	-1.349596D+01	4.072440D+00	3.497917D+02	2.251624D+00

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	XFF	ZFF	MFF	TP
RMTF	0.0	0.0	0.0	
RNTR	0.0	0.0	0.0	0.0
4.229162D-01		CTFP	A90F	
4.245998D-01		CTR _P	A90RA	
		7.702377D-02	5.283074D-01	
		5.288042D-02	3.060299D-01	

3

NON UNIFORM DOMINANT POWER CORRECTIONS

	RHPF	SHPTOT	HMLB
DELHPPF	RHPF	WFF	RP
DELHPR	RHPR		
7.603943D+01	1.339012D+03	2.461370D+03	5.685580D-02
5.220463D+01	1.022358D+03	2.462370D+03	9.949765D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE	RC ALPHA	GW ALFF	RHO THETA	XF LW LF LW
1.488000D+02 4.488000D+01	0. -5.548554D+00	1.750000D+04 -6.567396D+00	2.378000D-03 -4.490243D+00	1.974016D+03 1.092320D+04
VTF VTR	CGF CGL	BETAF PHI	PSI GAMMA	XR LW LR LW
7.050000D+02 7.050000D+02	3.809958D+01 0.0	7.000000D+00 8.159536D+00	-7.634065D+00 0.0	1.488173D+03 7.437950D+03
THE0F THEOR	A1CF A1CR	B1TF B1TR	B1CF B1CR	DFW LFFW
1.875094D+01 1.789489D+01	-8. -5.220458D+00	2.800000D+00 4.000000D+00	2.800000D+00 4.000000D+00	2.980894D+03 -1.073965D+03
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.832292D+01	-2.319209D+00	1.438891D+00	-1.356279D+00	8.777457D+00
TF TR	HF HR	YF YR	MHF MHR	LHF LHR
1.106296D+04 7.576660D+03	9.076685D+02 3.632862D+02	-2.329750D+02 -5.283503D+02	2.876001D+03 1.105030D+03	6.412053D+00 -2.054004D+03
QF QR	LFZ DFX	YFY MF	LF NF	RHPP RHPR
2.620233D+04 2.037266D+04	-1.356753D+03 2.863276D+03	-2.765278D+03 -1.235568D+04	-4.145136D+03 7.306110D+03	1.317123D+03 1.024080D+03
XR	L/DE	SHP10T	WFF	NML'B
3.284800D+03	7.311231D+00	2.441203D+03	2.442203D+03	5.732529D-02
SIG0F SIG0R	CTSF CTSR	CPSF CPSR	AMTF AMTR	LAMDAF LAMDAR
5.841923D-02 5.841923D-02	7.849559D-02 5.391984D-02	7.284901D-03 5.664108D-03	8.394295D-01 8.348988D-01	-9.405928D-02 -8.720595D-02
MUF MUR	VF VR	DFFR DFRF	DFF	AGF AGR
3.240746D-01 3.275099D-01	5.373990D+00 3.657522D+00	1.276695D+00 8.475555D-03	9.375823D-01	4.363015D+00 2.992479D+00
AIF AIR	B1F B1R	BETAOF BETAOR	B180F B180R	A270F A270R
6.636523D+00 1.366046D+00	5.972278D-01 -3.5333955D+00	-9.656752D-01 1.089615D+00	8.421851D+00 3.922874D+00	1.199153D+01 8.865805D+00
CAPVF CAPVR	ALPHAF ALPHAR	BETAFW BETARW	ATIPF ATIPR	BPTPF BPTPR
2.364596D+02 2.380246D+02	-1.493417D+01 -1.405937D+01	7.212221D+00 7.136176D+00	3.495960D+02 3.488255D+02	4.674829D+00 3.788789D+00

CASE 29

PAGE 4

	XFF	ZFF	HFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	
4.234125D-01		CTFP	A90F	
4.258137D-01		CTR _P	A90RA	
		7.744150D-02	5.675985D-01	
		5.273235D-02	4.057848D-01	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHFF	RHPF	SHPTOT	MNLB
	DELHPR	RHPR	WFF	RP
7.645182D+01	1.393574D+03	2.569713D+03	5.445960D-02	
5.205864D+01	1.076139D+03	2.570713D+03	9.530429D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 1.40000D+02 4.40000D+01	RC ALPHA 0. -6.665821D+00	GW ALFF 1.75000D+04 -7.697394D+00	RHO THETA 2.378000D-03 -4.361075D+00	XF LW LF LW 2.164202D+03 1.094000D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 0. 3.80958D+01	BETAF PHI 1.00000D+01 1.257934D+01	Psi GAMMA -1.114332D+01 0. 0.	XR LW LR LW 1.585293D+03 7.407353D+02
THEOF THEOR 1.911002D+01 1.855505D+01	AICF AICR -1.254140D+00 -7.816204D+00	B11F B11R 2.80000D+00 4.00000D+00	B1CF B1CR 2.80000D+00 4.00000D+00	DFW LFFF 2.976144D+03 -1.301255D+03
THETAC 1.883254D+01	DELTAB -2.539146D+00	DELTAS 2.178773D+00	DELTAR -2.002595D+00	DELTAC 9.172510D+00
TF TR 1.111385D+04 7.565258D+03	HF HR 9.218121D+02 3.858947D+02	YF YR -3.930140D+02 -8.341021D+02	MHF MHR 2.971594D+03 1.170508D+03	LHF LHR -4.927903D+03 -3.481808D+03
QF QR 2.769953D+04 2.289206D+04	LFZ DFX -1.637925D+03 2.884978D+03	YFY MF -4.2435028D+03 -1.369180D+04	LF NF -7.179836D+03 1.543659D+04	RHPP RHPR 1.392383D+03 1.110510D+03
XR 3.621321D+03	L/DE 7.192303D+00	SMPTOT 2.602893D+03	WFF 2.603893D+03	NMLD 5.376566D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.870369D-02 5.402740D-02	CPSF CP5R 7.701159D-03 6.142143D-03	AMTF AMTR 8.38692D-01 8.299869D-01	LAMDAF LAMDAR -9.969238D-02 -9.256945D-02
HUF HUR 3.225334D-01 3.261840D-01	VF VR 5.375514D+00 3.643733D+00	DFFR DFFR 1.226214D+00 1.707516D-02	DFF 9.382677D-01	A0F A0R 4.403345D+00 3.084930D+00
A1F AIR 4.895740D+00 8.663014D-01	B1F B1R 7.937261D-02 -5.909846D+00	BETAOF BETAOR -1.167107D+00 1.667928D+00	B180F B180R 8.720287D+00 3.510565D+00	A270F A270R 1.212298D+01 9.106567D+00
CAPVF CAPVR 2.364686D+02 2.380719D+02	ALPHAF ALPHAR -1.593145D+01 -1.500005D+01	BETAFW BETARW 1.033406D+01 1.021715D+01	ATIPF ATIPR 3.487299D+02 3.472005D+02	BPTPF BPTPR 4.896384D+00 5.973003D+00

CASE 18

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTR	CTR _P	A90RA	
4.248722D-01	7.756062D-02	6.246956D-01	
4.269613D-01	5.251543D-02	5.439314D-01	

NON UNIFORM DOMINANT POWER CORRECTIONS

DELHPF	RHPF	SHPTOT	NMLB
DELHPR	RHP _R	WFF	RP
7.656941D+01	1.468952D+03	2.731306D+03	5.123876D-02
5.184430D+01	1.162354D+03	2.732306D+03	8.966784D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499999D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
-6.665678D-02	-4.016186D-01	-4.673167D-02	5.662299D-01
-1.647237D-03	3.479385D-03	-7.549971D-02	-3.811015D-01
5.981905D-02	6.609537D-03	-2.253786D-02	1.3656453D+01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
5.051342D-02	8.013195D-01	5.371142D-01	-1.135497D+01
1.656323D-02	-5.054819D+00	9.318747D-01	3.20936D+00
-1.062126D+00	-5.1285329D+00	1.019331D-01	-2.411043D+02
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MW	MR	MDELR	MALPHA
-1.314385D-03	4.080499D-01	5.380135D-01	-5.708131D-02
6.205172D-03	-1.294537D+00	-1.663050D-02	1.435616D+00
-4.734167D-03	-4.550828D-01	-1.443770D-01	-1.095288D+00
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
-2.100591D-02	-3.382573D-01	-5.127282D-01	1.929020D-01
-2.504697D-01	1.102163D+00	9.706732D-01	-5.794356D+01
5.538216D-02	4.686928D-01	4.014450D-01	1.281311D+01
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-2.129816D-03	-2.690247D-01	-2.166210D-01	7.324070D-02
-1.557885D-02	5.08991D-01	3.661182D-01	-3.604293D+00
1.429861D-02	2.494186D-01	-1.309781D-02	3.308099D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-3.491970D-04	-1.306031D-01	1.059676D-01	-5.397329D-02
-7.676891D-03	-2.938227D-01	1.528260D-02	1.776110D+00
-7.751831D-03	-1.5306684D-01	1.106555D-01	-1.793449D+00

LONGITUDINAL

	U	NU	W	ALPHA	Q	THETAC
CTF	-0.755D-05-0.532D-02	0.110D-03	0.253D-01-0	0.122D-01-0	0.616D-02	0.616D-01
CTR	-0.256D-05-0.186D-02	0.963D-04	0.223D-01-0	0.253D-02-0	0.531D-01	
CHF	0.171D-05 0.121D-02	0.101D-04	0.233D-02-0	0.117D-03	0.739D-02	
CHR	0.136D-05 0.962D-03	0.628D-05	0.145D-02 0	0.185D-03	0.444D-02	
AIF	0.470D-03 0.331D+00	0.120D-02	0.277D+00-0	0.949D-01	0.107D+01	
AIR	0.458D-03 0.323D+00	0.105D-02	0.244D+00-0	0.430D+01	0.974D+00	
VFR	-0.306D-01-0.216D+02	0.130D+00	0.301D+02-0	0.151D+01	0.715D+02	
VRR	-0.176D-01-0.124D+02	0.114D+00	0.263D+02 0	0.302D+01	0.612D+02	
LF		0.700D+02	0.162D+05			
DF		0.480D+01	0.111D+04			
HF		0.150D+03	0.347D+05			

LATERAL-DIRECTIONAL

	V	BETA	P	R	R	AIC
CYF	-0.276D-05-0.638D-03	0.575D-05-0	0.433D-04	0.479D-02		
CYR	0.217D-05 0.501D-03-0	0.670D-04	0.753D-05	0.302D-02		
BLF	-0.269D-03-0.621D-01-0	0.698D-01-0	0.164D-01	0.106D+01		
BIR	0.381D-03 0.880D-01	0.613D-01	0.153D-02	0.101D+01		
YF	-0.114D+03-0.263D+05					
LF	-0.760D+02-0.175D+05					
NF	0.573D+03 0.132D+06					
CTF				0.408D-02		
CTR				-0.515D-02		

FORCE = 0.241446D+07

	BICF	BICR	OMEGAF	OMEGAR
X	0.0	0.0	0.0	0.0
Z	0.0	0.0	0.0	0.0
H	0.0	0.0	0.0	0.0
Y	0.0	0.0	0.0	0.0
L	0.0	0.0	0.0	0.0
N	0.0	0.0	0.0	0.0
	CTF	CTR	QFP	QFDLTAC
	CHF	CHR	QFQ	QFBETA
	AIF	AIR	QFR	QFALPHA
	VFR	VRR		
	QF	QR		
			QFDELB	QFDELTAC
			QFDELS	QFBETA
			QFDELR	QFALPHA
	QFU	QFV	-0.100D+01	0.142D+01
	QFW	QFR	0.732D+00	0.129D+00
			-0.126D+01	0.195D+00
				0.226D+02
	-0.124D-01	-0.335D-02		0.265D+01
	0.976D-01	-0.123D-01		0.775D+00
				0.212D+02
	QRU	QRP	QRDELB	QRDELTAC
	QRV	QRQ	QRDELS	QFBETA
	QRW	QRR	QRDELR	QFALPHA
	-0.587D-02	0.264D+01	-0.129D+01	0.221D+01
	-0.123D-01	0.343D+01	-0.399D-01	-0.284D+01
	0.918D-01	0.166D+01	0.148D+00	0.212D+02

CATALOG OF TRIM & STABILITY DERIVATIVE DATA

A-97 TRIM ANALYSIS (CH-46E)

GW = 17,500 lb CG = 40 in. fwd

<u>ALTITUDE</u>	<u>AIRSPEED</u>	<u>CLIMB RATE</u>	<u>SIDESLIP</u>	<u>DERIVATIVES</u>
0 ft	-45 kt swd	0 ft/min	-90 deg	
	-30			X
	-15			
	15		90	
	30			X
	45			

V FE 4.500000D+01 4.400000D+01	RC ALPHA 0.0 -9.000000D+01	GW ALFF 1.750000D+04 -9.000000D+01	RHO THETA 2.378000D-03 6.588310D+00	XF LW LF LW 1.654987D+03 1.098551D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI -9.000000D+01 -1.033845D+01	PSI GAMMA 9.000000D+01 0.0	XR LW LR LW 1.518407D+03 8.398555D+03
THEOF THEOR 1.475452D+01 1.414762D+01	AICF AICR 7.243378D-01 2.253441D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 2.430165D+03 -2.966634D-12
THETAC 1.445107D+01	DELTAB 4.748826D-01	DELTIAS -5.094669D-01	DELTAR 6.297957D-01	DELTAC 5.776026D+00
TF TR 1.110004D+04 8.525096D+03	HF HR 4.578733D+02 4.049929D+02	YF YR 5.262540D+02 6.602731D+01	MHF MHR 1.206506D+03 1.857980D+03	LHF LHR 1.580122D+03 3.570094D+02
QF QR 4.82647D+04 1.308732D+04	LFZ DFX -2.430165D+03 1.770816D-29	YFY MF 2.664442D+03 9.720660D+03	LF NF -2.397998D+03 -1.065777D+04	RHFF RHPR 7.452879D+02 6.578651D+02
XR 1.953428D+04	L'DE -2.021595D+00	SHPTOT 1.503153D+03	WFF 1.504153D+03	NMLB 2.991717D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.869612D-02 6.044507D-02	CPSF CPSR 4.122129D-03 3.638600D-03	AMTF AMTR 6.958068D-01 6.977848D-01	LANDAF LANDMAR -4.298571D-02 -4.176998D-02
MUF MUR 1.061076D-01 1.030858D-01	VF VR 1.585565D+01 1.222286D+01	DFFR DFFR 2.336527D-01 8.277028D-02	DFF 7.785613D-01	AOF AOF 4.263676D+00 3.234730D+00
A1F AIR 2.506396D+00 -6.465065D-01	B1F BIR -2.035565D+00 3.004507D+00	BETAOF BETADOR 1.697168D+00 3.826371D+00	B180F B180R 6.713463D+00 2.535472D+00	A270F A270R 5.658957D+00 4.565384D+00
CAPVF CAPVR 7.618777D+01 7.674786D+01	ALPHAF ALPHAR -1.09238D+01 -1.296787D+01	BETAFW BETARW 2.682781D+02 2.687284D+02	ATIPF ATIPR 2.630064D+02 2.623535D+02	BPTPF BPTPR 3.228861D+00 3.073277D+00

CASE 38

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	5.632233D-01	CTFP	A90F	
	5.609651D-01	CTR _P	A90RA	
		7.788327D-02	2.452782D+00	
		5.954269D-02	1.791462D+00	

NON UNIFORM DOWNMASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.526214D+00	7.488141D+02	1.509375D+03	2.979392D-02	
2.695832D+00	6.605609D+02	1.510375D+03	5.213937D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V	RC	GW	RHO	XF LW
FE	ALPHA	ALFF	THETA	LF LW
3.00000D+01	0.0	1.75000D+04	2.378000D-03	8.192654D+02
4.48888D+01	-9.00000D+01	-9.00000D+01	6.249949D+00	1.062504D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.05000D+02	3.809958D+01	-9.00000D+01	9.00000D+01	1.156385D+03
7.05000D+02	0.0	-5.009396D+00	0.0	7.872313D+03
THEOF	A1CF	B1TF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LF FW
1.445282D+01	-1.711200D-01	-2.500000D+00	-2.500000D+00	1.180928D+03
1.331926D+01	8.550133D-01	-2.500000D+00	-2.500000D+00	-2.677298D-12
THETAC	DELTAB	DELTA S	DELTAR	DELTAC
1.388604D+01	8.869770D-01	-3.439843D-01	1.518861D-01	5.338015D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.0646687D+04	4.548316D+02	2.009974D+02	1.339734D+03	6.000210D+02
7.948316D+03	3.671670D+02	-4.176962D+01	1.747370D+03	-1.209590D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHFR
1.412121D+04	-1.180928D+03	1.294774D+03	-1.165296D+03	7.098360D+02
1.106342D+04	6.884159D-30	4.723711D+03	-5.179094D+03	5.561293D+02
XR	L/DE	SHPTOT	WFF	NMLB
1.850974D+04	-4.752498D+00	1.365965D+03	1.366965D+03	2.194642D-02
SIGOF	CTSF	CPSF	AMIF	LAMDAF
SIGOR	CTS R	CPS R	AMIR	LAMDAR
5.841923D-02	7.563910D-02	3.926047D-03	6.729275D-01	-3.891851D-02
5.841923D-02	5.621312D-02	3.075907D-03	6.762351D-01	-3.681409D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
7.159645D-02	2.135970D+01	2.513799D-01	9.084150D-01	4.076998D+00
7.159296D-02	1.613326D+01	1.024263D-01		2.946966D+00
A1F	B1F	BETA OF	B180F	A270F
AIR	B1R	BETA OR	B180R	A270R
9.423234D-01	-2.189816D+00	3.108048D+00	4.994536D+00	4.792763D+00
1.657082D-01	2.840243D+00	2.757601D+00	3.089326D+00	3.604916D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
5.083896D+01	-6.855358D+00	2.691614D+02	2.614423D+02	2.383960D+00
5.141797D+01	-1.100142D+01	2.693807D+02	2.631657D+02	2.845073D+00

CASE 19

PAGE 4

XFF	ZFF	MFF	TP
LFF	YFF	NFF	
0.0	0.0	0.0	0.0
0.0	0.0	0.0	
RMTF	CTFP	A90F	
RMTK	CTR _P	A90RA	
5.853069D-01	7.532765D-02	2.790560D+00	
5.826818D-01	5.581183D-02	1.843214D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

DELHPP	RHPF	SHTOT	NMLB
DELHPR	RHPR	WF	RP
1.291479D+00	7.111275D+02	1.368214D+03	2.191039D-02
9.568833D-01	5.5703862D+02	1.369214D+03	3.834318D+02

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499988D+04	1.139358D+05	1.079538D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
4.857555D-03	-2.682534D-01	1.059651D-01	7.788967D-01
-5.349146D-02	1.31335D+00	9.219185D-02	-1.702686D-01
5.654372D-02	-1.669955D-01	4.529544D-03	1.795843D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-4.986996D-02	-4.836311D-01	7.208162D-02	-7.582019D+00
4.553548D-01	-1.467413D+00	-9.241031D-01	1.459873D+00
-6.843769D-01	2.986637D-01	5.686635D-02	-1.923791D+00
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-1.499367D-03	1.537447D-02	3.491118D-01	-8.186662D-02
4.197549D-03	-9.883618D-01	-1.144499D-03	1.336119D-02
-7.384117D-03	-2.181264D-01	1.337379D-01	-2.324973D-02
YU	YP	YDELB	YDELTAC
YV	YQ	YDELS	YBETA
YW	YR	YDELR	YALPHA
4.726437D-01	-1.421712D+00	3.196994D-02	5.686967D-01
-9.412483D-02	-2.778692D-01	9.732917D-01	-2.996086D-01
-1.8802902D-02	-2.192801D-01	2.287856D-01	-5.738817D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
-1.687528D-02	-7.206483D-01	-3.379679D-02	4.616933D-02
-5.730172D-03	5.823902D-02	3.636464D-01	-1.823971D-02
4.146890D-03	-4.803877D-02	-6.471286D-02	1.319741D-02
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
-9.912096D-03	3.679038D-05	4.094527D-02	7.559261D-03
1.336912D-03	-1.517178D-01	1.043831D-02	4.255523D-03
5.115134D-04	-4.266534D-02	1.241027D-01	1.628198D-03

LONGITUDINAL U MU W ALPHA Q THETAC

CTF	0.521D-05	0.367D-02	0.668D-04	0.213D-03	-0.105D-02	0.396D-01
CTR	0.484D-05	0.341D-02	0.642D-04	0.204D-03	0.143D-02	0.373D-01
CHF	0.216D-05	0.152D-02	0.307D-05	0.977D-05	-0.234D-03	0.158D-02
CHR	0.148D-05	0.105D-02	0.311D-05	0.988D-05	-0.649D-04	0.182D-02
AIF	0.877D-03	0.618D+00	0.279D-03	0.887D-03	0.376D-01	0.185D+00
AIR	0.886D-03	0.624D+00	0.248D-03	0.788D-03	0.405D-01	0.182D+00
VFR	0.282D-01	0.199D+02	0.419D+00	0.133D+01	-0.624D+01	0.160D+03
VRR	0.259D-01	0.182D+02	0.379D+00	0.121D+01	0.839D+01	0.157D+03
LF			0.137D+02	0.436D+02		
DF			0.166D-38	0.528D-38		
NF			-0.548D+02	-0.174D+03		

LATERAL-DIRECTIONAL

CFY	-0.331D-05	-0.105D-06	-0.190D-03	-0.611D-04	0.465D-02
CYR	0.170D-05	0.541D-05	0.132D-03	0.128D-04	0.343D-02
BIF	-0.222D-03	-0.705D-03	-0.348D-01	-0.486D-02	-0.334D-01
BIR	-0.168D-03	-0.535D-03	-0.371D-01	-0.136D-02	0.755D-02
YF	-0.391D+02	-0.124D+03			
LF	0.352D+02	0.112D+03			
NF	0.156D+03	0.498D+03			
CTF			0.426D-02		
CTR			-0.457D-02		

FORCE = 0.241446D+07

	OMEGAF			OMEGAR		
	0.0	0.0	0.0	0.0	0.0	0.0
X	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Z	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Y	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
L	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
H	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
CTF	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
CTR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
CHF	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
CHR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
AIF	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
AIR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
VFR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
VRR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
QF	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
QR	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
QFU	0.760D+00	0.573D+00	0.116D+01	0.206D-01	0.223D-01	0.324D-01
QFV	0.147D+01	-0.262D+00	-0.316D-01	-0.316D-01	-0.324D-01	-0.324D-01
QFR	-0.162D-01	-0.162D-01	-0.162D-01	-0.162D-01	-0.162D-01	-0.162D-01
QFP	0.738D-03	0.760D+00	0.760D+00	0.760D+00	0.760D+00	0.760D+00
QFQ	0.790D-02	0.147D+01	0.147D+01	0.147D+01	0.147D+01	0.147D+01
QFR	-0.162D-01	-0.262D+00	-0.262D+00	-0.262D+00	-0.262D+00	-0.262D+00
QRP	0.948D-05	0.324D+00	0.473D+00	0.958D+00	0.958D+00	0.958D+00
QRQ	0.265D-02	0.128D+01	0.121D-02	-0.248D-02	-0.248D-02	-0.248D-02
QRH	0.557D-04	0.288D+00	0.177D-03	0.177D-03	0.177D-03	0.177D-03

CASE 31

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V	RC	GW	RHO	XFLW
FE	ALPHA	ALFF	THETA	LF LW
1.500000D+01	0.0	1.750000D+01	2.376000D-03	2.044080D+03
4.400000D+01	-9.000000D+01	-9.000000D+01	6.108398D+00	1.0266858D+04
VTF	CGF	BETAF	PSI	XR LW
VTR	CGL	PHI	GAMMA	LR LW
7.050000D+02	3.809958D+01	-9.000000D+01	9.000000D+01	2.992284D+03
7.050000D+02	0.0	-3.201399D+00	0.0	7.135254D+03
THEOF	A1CF	B1FF	B1CF	DFW
THEOR	A1CR	B1TR	B1CR	LFW
1.523895D+01	-2.278796D-01	-2.500000D+00	-2.500000D+00	7.335149D+02
1.403871D+01	-7.709203D-02	-2.500000D+00	-2.500000D+00	-2.430483D-12
THETAC	DELTAB	DELTIAS	DELTAR	DELTAC
1.463883D+01	9.391539D-01	-5.509738D-02	-6.501794D-02	5.921575D+00
TF	HF	YF	MHF	LHF
TR	HR	YR	MHR	LHR
1.045993D+04	6.604014D+02	7.252347D+01	1.463425D+03	2.052571D+02
7.729167D+03	3.543829D+02	-9.804548D+01	1.659024D+03	-4.183470D+02
QF	LFZ	YFY	LF	RHFF
QR	DFX	MF	NF	RHPR
1.692611D+04	-7.335149D+02	8.042285D+02	-7.238057D+02	8.508310D+02
1.288031D+04	2.137994D-30	2.934060D+03	-3.216914D+03	6.474596D+02
XR	L/DE	SHP10T	WFF	NMLB
1.810721D+04	1.054759D+00	1.598291D+03	1.599291D+03	9.379158D-03
SIGOF	CTSF	CPSF	AMTF	LAMDAF
SIGOR	CTSR	CPSR	AMTR	LAMDAR
5.841923D-02	7.447102D-02	4.705879D-03	6.501849D-01	-4.883967D-02
5.841923D-02	5.472988D-02	3.581048D-03	6.542912D-01	-4.723369D-02
MUF	VF	DFFR	DFF	A0F
MUR	VR	DFRF		A0R
3.588068D-02	2.821488D+01	3.756411D-01	1.359629D+00	4.089287D+00
3.587999D-02	2.129208D+01	2.259017D-01		2.936068D+00
A1F	B1F	BETAOF	B180F	A270F
A1R	B1R	BETAOR	B180R	A270R
3.113827D-01	-2.379746D+00	3.769983D+00	4.393776D+00	4.434141D+00
6.609410D-01	2.699229D+00	2.267934D+00	3.589548D+00	3.351089D+00
CAPVF	ALPHAF	BETAFW	ATIPF	BPTPF
CAPVR	ALPHAR	BETARW	ATIPR	BPTPR
2.604537D+01	-1.377851D+01	2.694727D+02	2.608114D+02	2.400031D+00
2.7996882D+01	-2.537670D+01	2.696107D+02	2.636609D+02	2.778971D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	HFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
6.083491D-01		CTFP	A98F	
6.054137D-01		CTR _P	A98RA	
		7.289649D-02	3.179050D+00	
		5.058635D-02	2.375439D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	MHLB
	DELHPR	RHPR	HFF	RP
0.0	8.508310D+02	1.598291D+03	9.379158D-03	
0.0	6.474596D+02	1.599291D+03	1.641353D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

CASE 32

PAGE 3

V FE 1.50000D+01 4.40000D+01	RC ALPHA 0.0 -9.00000D+01	GW ALFF 1.75000D+04 -9.00000D+01	RHO THETA 2.378000D-03 6.082790D+00	XFLW LFLW 1.957843D+03 1.028517D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 9.00000D+01 2.822461D+00	PSI GAMMA -9.00000D+01 0.0	XRLW LR LW 2.973945D+03 7.145591D+03
THEOF THEOR 1.518650D+01 1.41200D+01	AICF AICR -5.451046D-01 -1.763331D+00	B1TF B1TR -2.50000D+00 -2.50000D+00	B1CF B1CR -2.50000D+00 -2.50000D+00	DFFW LFFW 7.300243D+02 -2.673540D-12
THETAC 1.465325D+01	DELTAB 8.345028D-01	DELTA S 4.012108D-01	DELTAR -4.888670D-01	DELTAC 5.932751D+00
TF TR 1.045870D+04 7.732356D+03	HF HR 4.831349D+02 3.383610D+02	YF YR -2.404970D+02 -1.694714D+02	MHFF MHR 1.692781D+03 1.472178D+03	LHF LHR -7.986220D+02 -8.158301D+02
QF QR 1.670172D+04 1.309817D+04	LFZ DFX -7.300243D+02 2.127820D-30	YFY MF -7.937648D+02 2.920097D+03	LF NF 7.143883D+02 3.175059D+03	RHFF RHPR 8.395519D+02 6.584106D+02
XR 1.811096D+04	L/DE 1.055451D+00	SHPTOT 1.597963D+03	WFF 1.598963D+03	NMLB 9.381083D-03
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTSR 7.423176D-02 5.472676D-02	CPSF CPSR 4.643495D-03 3.641617D-03	AMTF AMTR 6.546108D-01 6.507595D-01	LAMDAF LAMDAR -4.868189D-02 -4.709863D-02
NUF MUR 3.589327D-02 3.589274D-02	VF VR 2.826831D+01 2.134081D+01	DFFR DFFR 3.759668D-01 2.260699D-01	DFF 1.358471D+00	A0F A0R 4.074848D+00 2.942305D+00
AI F AIR 1.274590D+00 -1.338954D+00	B1F B1R 2.759912D+00 -2.383075D+00	BETA OF BETA OR 2.762457D+00 4.276866D+00	B180F B180R 5.337434D+00 1.599755D+00	A270F A270R 4.579582D+00 3.223801D+00
CAPVF CAPVR 2.601537D+01 2.794362D+01	ALPHAF ALPHAR -1.342252D+01 -2.510235D+01	BETAFW BETARW 9.046189D+01 9.034106D+01	ATIPF ATIPR 2.61746D+02 2.616610D+02	BPTPF BPTPR 3.040015D+00 2.733467D+00

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NADC-81118~50
Volume 4

CASE 32

PAGE 4

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0
RMTF		CTFP	A90F	
RMTR		CTR	A90RA	
6.038117D-01		7.291810D-02	3.305637D+00	
6.095667D-01		5.0665964D-02	2.538034D+00	

NON UNIFORM DOMINANT POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
	0.0	8.395519D+02	1.597963D+03	9.381083D-03
	0.0	6.584106D+02	1.598963D+03	1.641689D+02

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

V FE 3.00000D+01 4.40000D+01	RC ALPHA 0. -9.00000D+01	GW ALFF 1.75000D+04 -9.00000D+01	RHO THETA 2.37800D-03 6.157161D+00	XF LW LF LW 7.143496D+02 1.063301D+04
VTF VTR 7.05000D+02 7.05000D+02	CGF CGL 3.809958D+01 0. 0.	BETAF PHI 9.00000D+01 4.712479D+00	PSI GAMMA -9.00000D+01 0.0	XR LW LR LW 1.138160D+03 7.880725D+03
THE0F THEOR 1.438781D+01 1.345320D+01	A1CF A1CR -2.631486D-01 -2.166545D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFFW 1.175681D+03 -2.870435D-12
THETAC 1.392050D+01	DELTAB 7.313053D-01	DELTIAS 6.295348D-01	DELTAR -5.347334D-01	DELTAC 5.364731D+00
TF TR 1.064546D+04 7.955244D+03	HF HR 4.954656D+02 3.396045D+02	YF YR -3.084490D+02 -1.5557565D+02	MHF MHR 1.796678D+03 1.368281D+03	LHF LHR -9.915280D+02 -7.798232D+02
QF QR 1.3833317D+04 1.143556D+04	LFZ DFX -1.175681D+03 6.853576D-30	YFY MF -1.278334D+03 4.702725D+03	LF NF 1.150500D+03 5.113334D+03	RHPF RHPR 6.953572D+02 5.7483357D+02
XR 1.851857D+04	L/DE -4.800813D+00	SHPTOT 1.370193D+03	WFF 1.371193D+03	NMLB 2.187876D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS'R 7.563652D-02 5.666303D-02	CPSF CPS'R 3.845965D-03 3.179371D-03	AMTF AMTR 6.769270D-01 6.732960D-01	LAMDAF LAMDAR -3.853600D-02 -3.644652D-02
MUF MUR 7.163392D-02 7.163091D-02	VF VR 2.139747D+01 1.617834D+01	DFFR DFRF 2.514379D-01 1.025182D-01	DFF 9.031877D-01	A0F A0R 4.077570D+00 2.980760D+00
AIF AIR 1.570298D+00 -1.288504D+00	B1F B1R 2.940061D+00 -2.209352D+00	BETA0F BETA0R 2.454613D+00 4.227096D+00	B180F B180R 5.617758D+00 1.671763D+00	A270F A270R 4.947742D+00 3.530172D+00
CAPVF CAPVR 5.082948D+01 5.138703D+01	ALPHAF ALPHAR -6.508246D+00 -1.066246D+01	BETAFW BETARW 9.077873D+01 9.057502D+01	ATIPF ATIPR 2.620703D+02 2.617115D+02	BPTPF BPTPR 3.333135D+00 2.557632D+00

	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
RMTF	0.0	0.0	0.0	0.0
RMTR	0.0	0.0	0.0	0.0
5.866188D-01		CTFP	A90F	
5.865666D-01		CIRP	A90RA	
		7.538417D-02	2.641559D+00	
		5.587147D-02	2.003912D+00	

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHFF	RHPF	SHT TOT	NMLB
	DELHPR	RHPR	WF	RP
1.292448D+00	6.966496D+02	1.372443D+03	2.184291D-02	
9.579659D-01	5.757936D+02	1.373443D+03	3.822510D+02	

STABILITY DERIVATIVES OUTPUT

MASS	IXX	IYY	IZZ
5.439174D+02	1.499900D+04	1.139350D+05	1.079530D+05
XU	XP	XDELB	XDELTAC
XV	XQ	XDELS	XBETA
XW	XR	XDELR	XALPHA
6.512268D-03	2.656319D-01	6.858337D-02	7.678515D-01
-1.296059D-02	1.390379D+00	-1.040382D-01	-4.125484D-02
5.701877D-02	-1.320422D-01	-5.537102D-02	1.814964D-01
ZU	ZP	ZDELB	ZDELTAC
ZV	ZQ	ZDELS	ZBETA
ZW	ZR	ZDELR	ZALPHA
-5.774490D-02	2.790089D-01	7.470030D-02	-7.499608D+00
1.864727D-01	-1.299952D+00	9.187039D-01	5.935611D-01
-6.036312D-01	-3.014153D-02	-7.202571D-02	-1.922054D+00
MU	MP	MDELB	MDELTAC
MV	MQ	MDELS	MBETA
MM	MR	MDELR	MALPHA
-1.397986D-03	3.313460D-02	3.422684D-01	-8.307173D-02
4.125706D-03	-8.729392D-01	1.839293D-03	1.313253D-02
-7.369763D-03	-2.115314D-01	-1.311415D-01	-2.345868D-02
YU	YP	YDELB	YDELTAC
YY	YQ	YDELS	YBETA
YU	YR	YDELR	YALPHA
-4.700227D-01	-1.440972D+00	-1.159531D-01	-3.129825D-01
-7.714023D-02	-4.701143D-02	9.712887D-01	-2.455450D-01
2.160686D-02	-7.395062D-02	2.570291D-01	6.877678D-02
LU	LP	LDELB	LDELTAC
LV	LQ	LDELS	LBETA
LW	LR	LDELR	LALPHA
1.720588D-02	-6.579158D-01	-5.999890D-02	-5.323989D-02
-3.273958D-03	1.212401D-01	3.600708D-01	-1.042133D-02
-1.225554D-03	5.084136D-03	-5.910927D-02	-3.901060D-03
NU	NP	NDELB	NDELTAC
NV	NQ	NDELS	NBETA
NW	NR	NDELR	NALPHA
9.873563D-03	-5.861850D-02	2.716342D-02	-8.826471D-03
1.470837D-03	-1.394042D-01	1.303282D-02	4.681821D-03
-2.195459D-03	-5.245290D-02	1.251049D-01	-6.988364D-03

LONGITUDINAL

	U	MU	W	ALPHA	Theta	THETAC
CTF	0.717D-95	0.506D-92	0.667D-94	0.212D-93	0.907D-93	0.395D-91
CTR	0.659D-95	0.465D-92	0.643D-94	0.295D-93	0.125D-92	0.373D-91
CHF	0.227D-95	0.169D-92	0.332D-95	0.166D-94	0.237D-93	0.193D-92
CHR	0.156D-95	0.110D-92	0.274D-95	0.871D-93	0.769D-94	0.150D-92
AIF	0.881D-93	0.621D+00	0.282D-03	0.899D-03	0.355D-01	0.190D+00
AIR	0.855D-93	0.603D+00	0.247D-03	0.788D-03	0.328D-01	0.177D+00
VFR	0.484D-01	0.285D+02	0.418D+00	0.133D+01	0.575D+01	0.160D+03
VRR	0.364D-01	0.257D+02	0.378D+00	0.120D+01	0.752D+01	0.157D+03
LF			0.136D+02	0.432D+02		
DF			0.167D-30	0.530D-30		
NF			-0.543D+02	-0.173D+03		

LATERAL-DIRECTIONAL

	V	BETA	P	R	AIC
CYF	-0.150D-95	-0.478D-95	-0.195D-93	-0.390D-94	0.470D-92
CYR	0.155D-95	0.494D-95	0.132D-93	0.227D-94	0.333D-92
BIF	0.103D-03	0.328D-03	0.364D-01	0.617D-02	0.443D-02
BIR	0.528D-04	0.168D-03	0.356D-01	0.298D-02	0.279D-01
YF	-0.346D+02	-0.110D+03			
LF	0.311D+02	0.991D+02			
NF	0.138D+03	0.440D+03			
CTF			-0.425D-02		
CTR			0.460D-02		

FORCE = 0.241446D+07

V FE 4.500000D+01 4.400000D+01	RC ALPHA 0.0 -9.000000D+01	GW ALFF 1.750000D+04 -9.000000D+01	RHO THETA 2.378000D+03 6.566357D+00	XF LW LF LW 1.514094D+03 1.101781D+04
VTF VTR 7.050000D+02 7.050000D+02	CGF CGL 3.809958D+01 0.0	BETAF PHI 9.000000D+01 9.864825D+00	PSI GAMMA -9.000000D+01 0.0	XR LW LR LW 1.506823D+03 8.4066756D+03
THEOF THEOR 1.468893D+01 1.417545D+01	A1CF A1CR -7.1464863D+01 -3.007956D+00	B1TF B1TR -2.500000D+00 -2.500000D+00	B1CF B1CR -2.500000D+00 -2.500000D+00	DFW LFW 2.423031D+03 -2.957925D-12
THETAC 1.442819D+01	DELTAB 3.955230D-01	DELTIAS 7.678818D-01	DELTAR -7.999995D-01	DELTAC 5.758288D+00
TF TR 1.110955D+01 8.533569D+03	HF HR 5.122576D+02 3.4966600D+02	YF YR -5.166411D+02 -1.974036D+02	MHF MHR 1.882598D+03 1.254199D+03	LHF LHR -1.663858D+03 -9.405778D+02
QF QR 1.448349D+04 1.321649D+04	LFZ DFX -2.423031D+03 1.765617D-29	YFY MF -2.634593D+03 9.692124D+03	LF NF 2.371134D+03 1.053837D+04	RHFF RHPR 7.280428D+02 6.643539D+02
XR 1.955431D+04	L/DE -1.998995D+00	SHPROT 1.492397D+03	WFF 1.493397D+03	NMLB 3.013265D-02
SIGOF SIGOR 5.841923D-02 5.841923D-02	CTSF CTS 7.8405000D-02 6.027138D-02	CPSF CPSR 4.026747D-03 3.674489D-03	AMTF AMTR 6.996324D-01 6.950612D-01	LAMDAF LAMDAR -4.217234D-02 -4.095321D-02
MUF MUR 1.062597D-01 1.062398D-01	VF VR 1.589092D+01 1.225383D+01	DFFR DFRF 2.336728D-01 8.280102D-02	DFF 7.698390D-01	AOF AOR 4.248841D+00 3.225905D+00
A1F A1R 2.613838D+00 -1.570095D+00	B1F B1R 3.134288D+00 -2.004053D+00	BETAOF BEIAOR 1.588894D+00 4.770392D+00	B180F B180R 6.808222D+00 1.616741D+00	A270F A270R 5.793054D+00 4.413167D+00
CAPVF CAPVR 7.618017D+01 7.672001D+01	ALPHAF ALPHAR -1.0466473D+01 -1.250813D+01	BETAFW BETARW ATIPF ATIPR 9.164120D+01 9.121199D+01	ATIPF ATIPR 2.631138D+02 2.614299D+02	BPTPF BPTPR 4.081165D+00 2.545865D+00

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	XFF	ZFF	MFF	TP
	LFF	YFF	NFF	
0.0	0.0	0.0	0.0	0.0
RHIF		CTFP	A90F	
RHTR		CTR	A90RA	
5.564031D-01	7.811224D-02	2.339550D+00		
5.650868D-01	5.960083D-02	1.922366D+00		

NON UNIFORM DOWNWASH POWER CORRECTIONS

	DELHPP	RHPF	SHPTOT	NMLB
	DELHPR	RHPR	WFF	RP
3.536589D+00	7.315793D+02	1.498632D+03	3.000737D-02	
2.698465D+00	6.670524D+02	1.499632D+03	5.251289D+02	

STABILITY NOT CALCULATED FOR THIS CASE, SKIPPING TO NEXT CASE

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